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INDEX

TO

THE MODERN HOSPITAL

VOLUME X

JANUARY TO JUNE, INCLUSIVE

1918

299638
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PUBLISHED BY

THE MODERN HOSPITAL PUBLISHING CO., Inc.

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THE MODERN HOSPITAL

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INDEX

This index contains in a single alphabetical sequence the names of authors and subjects of all articles published in THE MODERN HOSPITAL during the six months covered by this volume. The following abbreviations indicate special departments in which articles appeared: Ab., abstract in Current Hospital Literature; Bk. Rev., Book Reviews; Corr., Letters to the Editor; Ed., Editorials; Q. and A., Queries and Answers.

A

Abingdon Memorial Hospital, Nurses' Home of—Frick....396
Accounting, Hospital—
  Bookkeeping for Small Hospitals and Allied Institutions—Carter and Porter,....182, 254, 341
  Expenses, Hospital, Proper Distribution of—Chapman.... 44
  Keep Books on Yourself.... 71
Administration, Hospital, Standardization of....117
Administrative Articles (see also Standardization)—
  Admitting System in Use at the Milwaukee Children's Hospital—Gage....242
  Alcohol, Used, Reclamation of—Selden.... 60
  Bed, The Proper Way to Make—Scheller....205
  Bookkeeping for Small Hospitals and Allied Institutions—Carter and Porter....182, 254, 341
  Bronson Hospital, Kalamazoo, Mich.—Broyles.... 92
  Coal, Conservation in Use of.... 62
  Convalescent Children, Country Home for, at Prince Crossing, Ill 42
  Cost, Increased, of Hospital Operations, How to Meet—Behrens..132
  Dietitian, Standardization of Work and Training of—Eckman.... 52
  Economies, Small-Hospital—Garrison....133
  Economies, War-Time, at Flower Hospital—Bartine....220
  Economy in Hospital Operation—Behrens....132
  Economy in the Management of Small Hospitals—Morritt.... 79
  Educational Problem in the Small Hospital—Wheeler....120
  Eight-Hour Day Applied to Hospitals—Lewis.... 50
  Expenses, Hospital, Proper Distribution of—Chapman.... 44
  Eye and Ear Service in General Hospitals—Allport....151
  Hospital a Teaching Institution—Goodwin.... 36
  Insane, Hospitals for, Patient Labor in—Hill.... 1
  Insane Wards of Nagasaki Hospital, Non-Restraint System in—Ishida....393
  Out-Patient Service, Standards of, as Interpreted at Peter Bent Brigham Hospital, Boston....123
  Patient Labor in Hospitals for the Insane—Hill.... 1
  Pharmacy, Hospital, Economy in—Bacon and Gray....291
  Poliomyelitis, Anterior, Use of a Tent in Treating—Boorstein.... 49
  Prison Industries, Development of—Whitman.... 4
  Refrigeration for Institutions—Wheeler....173
  Roentgen Equipment, Installation of, at Moderate Expense—Moore....409
  Sanatorium Blanket Problem—Scheller.... 84
  Small Hospital, How It May Give High-Grade Service—Shelton...112
  Small-Hospital Management....151
  Social Service Department, Value of, to a Tuberculosis Sanatorium—Fulmer....122
  Standardization of Hospital Administration....117
  Superintendent, Hospital, Relation of to Research—Collins....261
  Teaching Problem in the Small School—Ink.... 51
  Training School, Health Conservation in....121
  Tuberculosis, Pennsylvania, an Example of the Advantages of State-Wide Control of—Schaeffle.... 17
Admitting System in Use at the Milwaukee Children's Hospital—Gage....242
Advertising, Hospital, Legitimate, Camp (Corr.)....230
Aeroplane Ambulance.... 60
Aeroplane, Transportation of Wounded by (Ab.)....461
Alcohol and Narcotics, Private Sanatoriums for Patients Addicted to—Hornsby and Others....178
Alcohol, Used, Reclamation of—Selden.... 60
Ambulance, Aeroplane.... 60
Ambulance, American, Field Service of (Friends of France—Bk. Rev.)....215
Ambulance Companies and Field Hospitals, Designations for.... 58
Ambulance, Transforming Your Automobile Into.... 21
American Ambulance, Field Service of (Friends of France—Bk. Rev.)....215
American College of Surgeons—
  Aims of in Hospital Standardization—Bowman (Corr.)....377
  First Hospital Survey of (Ed.)....274
  Hospital Standardization Movement (Ed.)....348
American Cooked Food Service—MacDonald....292
American Dietetic Association—
  Constitution of....207
  Meeting of Executive Committee of....289
  Members of....359
American Hospital Association, Bulletin of....47, 119, 208, 290, 364, 441
American Hospital for Italian Wounded....291
American Hospital in London (Ab.)....307
American Illustrated Medical Dictionary—Dorland (Bk. Rev.)....462
American Medical Association Meeting....374
American Red Cross: see Red Cross
American Relief Work in Lombardy....450
American Vegetable Parer....386
Amsterdam, Care of Patients with Nervous and Mental Diseases in—Vos (Ab.)....225
Anesthesia Course for Nurses (Q. and A.)....381
Anesthesia Emergency Outfit....228
Anesthetics, Human Touch in....372
Anesthetics, Local, Reporting Accidents from—Sollmann and Hatcher (Corr.)....230
Animal Foods, Their Composition and Fuel Value—Street....329
Anterior Poliomyelitis, Use of a Tent in Treating—Boorstein.... 49
Arcachion, Helio-Marine Treatment at Wallerstein Sanatorium (Ab.)....143
Architectural Articles—
  Children's Hospital, New, at Denver, Colo.—Biscoe and Goldwater 22
  Choate Memorial Hospital, Woburn, Mass.—Stevens.... 75
  Cragmor Sanatorium, Colorado Springs—Morton....336
  Communicable Diseases, Hospitals for—Schmidt....153
  Convalescent Children, Country Home for, at Prince Crossing, Ill. 42
  Easton Hospital, Easton, Pa., New Building for—Michler and Goldwater....317
  Guardian Angel Orphange, Isolation Hospital of, at Peoria, Ill.—Dox.... 88
  Helen Newberry Nurses' Home—Leck....264
  Kistler Memorial Home for Nurses of Lock Haven Hospital—Happersett and Rush....101
  Liberty Field Hospital Ward—Osborn....366
  Maternity Building for West Philadelphia Hospital for Women—Burrows....413
  Minnequa Hospital, Pueblo, Colo., New Nurses' Home for—Corwin.176
  Morristown (N. J.) Memorial Hospital, Contagious Ward of—Palmer and Hornbostel and Goldwater....171
  Norton Memorial Infirmary, Nurses' Home of—Loomis and Hartman....331
  Nurses' Homes and Some of Their Requirements—Cervin.... 28
  Nurses' Homes, Efficiency in Design of—Sturm....403
  Saranac Lake (N. Y.) General Hospital—Walker.... 82
  Swedish Lutheran Hospital, New, at Moline, Ill.—Cervin....267
Arm-Support, Attachable to Operating Tables....227
Arms, Artificial....227
Army Hospitals; see Military Hospitals.
Army Medical Corps Examinations....360
Army Nurse Corps....218
Army Training Camps, Food Conservation Needed in.... 59
Army Training Camp, Mississippi, Food Conservation at....323
Army Training, Physicians in (Ed.)....193
Arsphenamine, Reports on Toxicity of (Ed.)....353
Art From a War Hospital....127
Asylums, Infant, Artificial Feeding in—Viana (Ab.).... 67
Autocall Calling Service....147

B

Bacon, Asa S., and Gray, William—Economy in the Hospital Pharmacy....291
Bailey, W. T., and Denison, A. B.—A Convenient X-Ray Illuminator.105
Baldy, John M.—Standards of Hospital Education for Interns....397
Banana, Food Value of....206
Bandages, Crepe Paper....464
Bandages, Washed, Use of (Q. and A.)....231
Bardswell, N.—An Open-Air Industrial Experiment for Tuberculous Cases—The Hairmyres Colony, Lanarkshire (Ab.)....142
Barley Bread—Sprague and Loflin....288
Bartine, Oliver H.—War-Time Economies at Flower Hospital....220
Base Hospital, From the Trenches to—Kauffman....214
Bastogi, G.—Homeless-Leper Asylum of Matoonga (Bombay) (Ab.).382
Battle on This Side (Ed.)....428
Bed, Conformable Invalid....384
Bed Endowment, Permanent, Amount Required for (Q. and A.)....144
Bed, The Proper Way to Make—Scheller....205
Behrens, P. W.—How to Meet the Increased Cost of Hospital Operation....132
Belgian Soldiers, Wounded, Rehabilitation of....116
Belgium, Free, and Its Hospitals....365
Bergeron, J. Z.—Forceps for Controlling Hemorrhage After Enucleation of Tonsils.... 72
Bertarlli, E.—Orientation of Hospital Buildings (Ab.)....225
Biscoe, Maurice B., and Goldwater, S. S.—The New Children's Hospital at Denver, Colo.... 22
Blakey, A. G.—"Plain Old-Fashioned Work and the Delinquent Boy" (Corr.).... 69
Blanket and Linen Buying at Current Prices (Q. and A.)....144
Blanket Problem, Sanatorium—Scheller.... 84
Blind, Electrical Work for.... 63
Blind Soldiers, Automatic Writing Appliance for.... 46
Blindness, Prevention of—Maternity....139
Blodgett Memorial Hospital, Grand Rapids, Mich....423
Blois, Hotel Dieu of—Monclos....313
Blood Transfusion by the Citrate Method, Technic and Equipment for....149
Bombay, Homeless-Leper Asylum of Matoonga—Bastogi (Ab.)....382
Bone Surgery Equipment, Instantaneous Stopping Device, Universal Electrically Driven....149
Bones and Joints, Operation Room for—Petit de la Villeon (Ab.)..308
Bookkeeping, Hospital: see Accounting, Hospital.
Books Received for Review....73, 143, 226, 383, 462
Boorstein, Samuel—The Use of a Tent in Treating Anterior Poliomyelitis.... 49
Bordeaux, New Dispensary for Venereal Diseases in (Ab.)....141
Borden, Richard P.—Hospitals and Vocational Training (Ab.)....462
Bott, E. A.—Not Responsible for Article in November Issue (Corr.) 71
Bowman, John G.—Aims of the American College of Surgeons in Hospital Standardization (Corr.)....377
Brainard, Helen C.—Red Cross Work Among Mental Patients....306
Bread for War Times—Sprague and Loflin....286
Breads, War, Overcoming Difficulties with....286
Bresnahan, John F.—Occupations for Out-Patients at the Massachusetts General Hospital.... 90
British Hospital Ships.... 56

British Hospital Trains....347
British Navy, Stowage of Wounded on Ships of.... 57
Brooks, Frank C.—The Children's Clearing Bureau of New York... 85
Browne, E. M.—Tung Wah Hospital, Hong Kong (Ab.)....461
Broyles, J. E.—A Small Hospital With Up-To-Date Features (Bronson Hospital, Kalamazoo, Mich.).... 92
Building Costs (Construction Costs—Q. and A.)....69
Building, Hospital, During the War (Ed.)....350
Bulletin of the American Hospital Association..47, 119, 208, 290, 364, 441
Burns, De Vilbiss Theromer for....384
Burrows, Ladye W.—New Maternity Building for West Philadelphia..413
Butler Fracture Traction and Extension Splint....385
Butler, Lucile A., and Rau, Virginia—The Hospital Care of Contagious Diseases....195
Butter: see also Fats.
Butter-Cutter, Individual Automatic....147
Butter-Serving Machine....310
Butterworth Hospital, Grand Rapids, Mich....424
Buying, Local, at a Loss (Q. and A.)....143

C

Cafeteria in the Nurses' Dining Room at Lakeside Hospital, Cleveland....443
Calcutta Eye Hospital, New Maynard (Ab.).... 67
Calling Service, Autocall....147
Calories, Meaning of—Street.... 10
Camera, Reducing, X-Ray....310
Camp, F. K.—Legitimate Hospital Advertising (Corr.)....230
Canada, Rehabilitation of Crippled Soldiers in....362
Canada, Rural Hospitals in (Ab.)....142
Canadian Military Hospitals: see Military Hospitals, Canadian.
Canadian Red Cross Hospitals: see Red Cross Hospitals, Canadian.
Canadian Soldiers, Wounded, Vocational Reeducation of.... 58
Canteens, Red Cross....377
Canteens, Red Cross Front-Line (Hot Drinks for Soldiers)....316
Canteens, Red Cross, in Milan....450
Cantonments: see Army Training Camps.
Car, Public Health, Kansas—Hertzler.... 14
Carbohydrates, Meaning of—Street.... 10
Carbondale, Ill., Holden Hospital at....270
Carroll (Iowa) St. Anthony's Hospital....425
Cars, Hospital: see Trains, Hospital.
Carter, Herbert K., and Porter, Charles A.—Bookkeeping for Small Hospitals and Allied Institutions....182, 254, 341
Catholic Hospital Association Cooperating in the Standardization of Hospitals.... 52
Catholic Hospital Association Convention (Ed.)....430
Catholic Hospital Association, Third Annual Convention of....456
Caustic and Soap in the Hospital Laundry (Q. and A.)....460
Cazin, N.—Heliotherapy in the Treatment of War-Wounds (Ab.)..308
Cellucotton (A Substitute for Absorbent Cotton)....228
Cellucotton (Wood Pulp) and Sphagnum Moss for Surgical Dressings....126
Cerebrospinal Meningitis at a Training Camp....216
Cervin, Olaf Z.—Nurses' Homes and Some of Their Requirements... 28
Swedish Lutheran Hospital, New, at Moline, Ill....267
Chair, McGrath's Adjustable Walking....464
Chair, Motor, Electric....311
Chapman, Frank E.—Proper Distribution of Hospital Expenses.... 44
Economy in the Engineering and Mechanical Departments....445
Charles Choate Memorial Hospital, Woburn, Mass.—Stevens.... 92
Charlesgate Hospital—Views of a Small Hospital on Hospital Standardization (Corr.)....375
Chest Diseases, Rotary Institute for, Vancouver, B. C.—McEachern..396
Chicago, Illinois, Central Hospital in....424
Child Welfare in South Carolina....170
Children's Clearing Bureau of New York—Brooks.... 85
Children's Clearing Bureau of New York (Ed.)....108
Children's Hospitals, Standards for—McLean....324
Children's Hospitals—
Children's Hospital, New, at Denver, Colo.—Biscoe and Goldwater.... 22
Milwaukee Children's Hospital, Admitting System in Use at—Gage....242
Children Under School Age, Institutions Necessary for the Welfare of....140
China, Hospitals in—
Henrietta Bird Memorial Hospital (Ab.)....225
Tung Wah Hospital, Hong Kong—Browne (Ab.).... 461
Wuchang, China, Modern Hospital for—Hutchins....346
Chinese Medicine....387
Chlorine Disinfectant Apparatus, Simple—Clark....447
Citrate Method of Blood Transfusion, Technic and Equipment for..149
City Hospital, Economics of Enlarging (Q. and A.)....381
Civil Employees of the United States, Hospital and Medical Treatment of—Trask....441
Clark, Pliny O.—Simple Chlorine Disinfectant Apparatus....447
Clarke, Ethel P.—Nursing Course in Medical Diseases....198
Cleveland, Lakeside Hospital in, Cafeteria in Nurses Dining Room at....443
Cleveland, Edward H.—A Small Sanatorium for the Tuberculous...116
Clinics: see also Dispensaries; Out-Patient Service.
Clinic, Venereal Diseases—Graves....378
Coal, Saving of....62, 133
Cohn, Eugene—Open Cottages at Kankakee State Hospital....411
Collins, Herbert O.—The Relation of the Hospital Superintendent to Research....261
Color as a Therapeutic Agent.... 16
Colorado Springs, Cragmor Sanatorium at—Morton....336
Colormeter, An Improved....384
Communal Kitchens....134
Communicable Diseases, Hospital for, Principles Involved in Planning (Q. and A.)....380
Communicable Diseases, Hospitals for—
Guardian Angel Orphanage, Peoria (Ill.) Isolation Hospital of—Dox 88
Michael Reese Hospital, Isolation Building of—Schmidt....153
Morristown (N. J.) Memorial Hospital, Contagious Ward of—Palmer and Hornbostel and Goldwater....171
Newport Naval Hospital, Isolation Ward Plans for—Joslin....280
Communicable Diseases, Hospital Care of—Butler....195
Communicable Diseases, Hospitals for, Standardization of—Hornsby and Others....245
Communicable Diseases, Hospitals for (with bibliography)—Schmidt 153
Community Function of the Hospital (Ed.)....352
Community Hospitals—
Holden Hospital, Carbondale, Ill. (A Small Successful Community Hospital)....270
Jackson (Mich.) Municipal Hospital (Little Journeys to Places and People Worth Knowing)—Robinson....417
Lexington, Miss. (A Very Small Community Hospital)....115
Conformable Invalid Bed....384
Connecticut Hospital for the Insane, Red Cross Work in—Brainard.306
Connely, Willard—University Training for the Navy Hospital Corps.159
Conservation: see also Coal; Food Conservation.
Conservation, A Problem in (Ed.)....110
Construction Costs (Q. and A.).... 69
Consumption: see Tuberculosis.
Contagious Diseases, Hospitals for: see Communicable Diseases, Hospitals for.
Contagious Ward of the Morristown (N. J.) Memorial Hospital—Palmer and Hornbostel and Goldwater....171
Convalescent Children, Country Home for.... 42
Convalescent Hospitals, Military, Canadian....295
Convict Offers to make Knitting Needles for Red Cross.... 16
Cooking as a Vocation for Handicapped Men (Ed.)....111
Cooking School for Handicapped Men, Suggestion for (Occupations for Out-Patients)—Bresnahan.... 90
Corwin, R. W.—New Nurses' Home for Minnequa Hospital, Pueblo, Colo....176
Costs, Hospital; see also Accounting, Hospital; Expenses, Hospital.
Costs, Hospital, and Building (Ed.)....191
Cotton, Absorbent, Substitute for (Cellucotton)....228
Council of National Defense, Hospital and Nursing Plans of the....465
Country Districts of Netherlands, Care of Sick in—Wortman (Ab.).226
Country Home for Convalescent Children, Prince Crossing, Ill..... 42
County General Hospitals, Establishment of Standardized, a Plea for—Nifong (Ab.).... 66
County Hospital, Organization of (Q. and A.)....381
Cragmor Sanatorium, Colorado Springs—Morton....336
Crepe Paper Bandages....464
Crippled: see also Handicapped.
Crippled and Disabled Men, Red Cross Institute for—McMurtrie....451
Crippled Children, Convalescent, Country Home for, at Prince Crossing, Ill.. 42
Crippled Sailors and Soldiers of the United States, Contributions Toward the Rehabilitation of....361
Crippled Sailors and Soldiers, a Permanent Home for—Treves (Ab.).461
Crippled Soldiers, What Shall We Do for—Dennis....212
Crippled Soldiers, Occupations for (Wounded at Work in Ospedale Maggiore)—Medea (Ab.)....382
Crippled Soldiers and Sailors of the United States, Contributions Toward the Rehabilitation of....361
Crippled Soldiers, Hospital School for—McMurtrie....235
Crippled Soldiers, New Occupations for....164
Crippled Soldiers, Rehabilitation of in Canada....362
Crippled Soldiers, Work of at the Ospedale Maggiore (Ab.)....461
Crippled, Treatment and Training of, at Queen Mary's Convalescent Auxiliary Hospital, Roehampton—Myers....461
Cripples, Diamond Cutting for....189
Current Hospital Literature....66, 141, 225, 307, 382, 461

D

Davis, Edward P.—Lives and Health of Mothers and Children....283
Davison, Henry J.—An Argument for Beauty in a Hospital....277
Dekker, C.—Sanatorium for Patients with Surgical Tuberculosis (Ab.)....308
Delinquent Boy, a Chance for (Ed.).... 34
Delinquent Boy, and "Plain Old-Fashioned Work"—Blakey (Corr.) 69
Denison, A. B., and Bailey, W. T.—A Convenient X-Ray Illuminator.105
Denmark and Sweden, Nurses for Insane in.... 48
Dennis, John S.—What Shall We Do for Our Crippled Soldiers....212
Dental Dispensary, Rochester (Ab.).... 66
Denver, Colo., New Children's Hospital at—Biscoe and Goldwater... 22
Detecto Office and Bathroom Scale....229
Detroit, Helen Newberry Nurses' Home—Leck....264
Detroit (Mich.) hospitals; Grace and St. Mary's....425
DeVilbiss Theromer....384
Diamond-Cutting for Cripples....189
Dickinson, Thomas H.—Food Conservation and Health....358
Dictionary, Medical, American Illustrated—Dorland (Bk. Rev.)....462
Dietetic Associations; see American Dietetic Association; Minnesota Dietitians' Association; New York Association of Dietitians.
Dieteties: see also Foods; Nutrition.
Dietetics, Department of....52, 135, 206, 286, 357, 443
Dietitian, Work of, in Canadian Military Hospitals—Ryley....135
Dietitians, Hospital, Standards for (Ed.).... 33
Dietitian, Work and Training of, Standardization of—Eckman..... 52
Dietitians, Minnesota, Organize....289
Diets, Sanatorium, How to Avoid Monotony of—Wilson (Corr.)....230
Dining Room, Visitors'....295
Disabled; see Crippled.
Disinfectant Apparatus, Chlorine, Simple—Clark....447
Disinfector, Portable Steam and Formaldehyde....463
Dispensaries: see also Clinics; Out-Patient Service; Venereal Dispensaries.
Dispensary and Out-Patient Work....122, 221
Dispensary and Out-Patient Department in War-Time, Problems and Place of....221
Dispensary, Dental, Rochester (Ab.).... 66
Doisy and Marcille—A Mobile Surgical Hospital (Ab.)....226
Dorland, W. A. Newman—American Illustrated Medical Dictionary (Bk. Rev.)....462
Dorr, William R.—Further Comments on Standardization..... 27
Dorrance Utility Arm....227
Dox, Hamilton B.—An Economical Isolation Hospital..... 88
Dressings: see Surgical Dressings.
Drying Versus Canning as a Source of the Winder's Vegetable Supply....412
Duffield, Warren L.—The Hospital Surgeon, His Economies and the Standardization of His Work (Ab.).... 66
Dwelling House, Transformation of Into a Hospital—Stevens..... 75
Dwelling House, Transformation of Into a Hospital (A Problem in Conservation) (Ed.)....110

E

Easton Hospital (Easton, Pa.), New Building for Michler and Goldwater ... 317
Eating Places, Etc., Public Cleansing of Utensils Used in (Ed.) ... 353
Eckman, Rena S.—The Standardization of the Work and Training of the Dietitian ... 52
Economies, Small-Hospital Garrison ... 133
Economies, War-Time, at Flower Hospital Bartine ... 220
Economies, War-Time Institution ... 60, 132, 218, 291, 445
Economy in the Management of Small Hospitals Morratt ... 79
Economy in Hospital Operation Behrens ... 132
Editorials ... 32, 106, 190, 272, 348, 426
Education, Hospital, for Interns, Standards of Baldy ... 397
Educational Problem in Small Hospital Wheeler ... 120
Efficiency in the Design of Nurses' Homes Sturm ... 103
Eight-Hour Day Applied to Hospitals—Lewis ... 50
Electric Motor Chair ... 311
Electric Switch, Ten-O'Clock (Q. and A.) ... 231
Elgin (Ill.), Sherman Hospital in ... 424
Elizabeth L. Peck Maternity Building of West Philadelphia Hospital for Women Burrows ... 413
Employees, High-Priced, and Poor ... 66
Employment, Three Stimulating Contributions on (Ed.) ... 35
Endowment, Permanent, of Bed, Amount Required for (Q. and A.) ... 144
Engineering and Mechanical Departments, Economy in Chapman ... 445
Epileptics and Insane, State Hospitals for—Hornsby and Others ... 178
Equipment, New Instruments and ... 72, 147, 227, 309, 383, 463
Equipment, Study of Need for ... 289
Eugenics Limited to the Care of Pregnant Women, Advocating Expectant Mother Hospitals and Special Dispensaries—Smith (Ab.) ... 382
Expenses, Hospital: see also Accounting, Hospital; Costs, Hospital.
Expenses, Hospital, Proper Distribution of—Chapman ... 44
Eye and Ear Service in General Hospitals ... 151
Eye Hospital, New Calcutta—Maynard (Ab.) ... 67

F

Farm Colonies in the Treatment of Tuberculosis (Ab.) ... 462
Fat, Meaning of—Street ... 10
Fats, Edible—Wesener and Teller ... 54
Features of Special Interest in This Issue and the Forthcoming Volume (Ed.) ... 428
Feeble-Mindedness Sapping Nation's Vital Forces ... 465
Feldman, A. M.—The Mechanical Equipment of Montefiore Home and Hospital ... 248
Field Editor's Note Book, From the ... 423
Field Hospitals and Ambulance Companies, Designations for ... 58
Field Service, Portable X-Ray Set for ... 383
Finances, Hospital, and the War Goldwater (Ed.) ... 190
First-Aid Equipment for Industrial Plant (Q. and A.) ... 305
Floor Dressing, Operating Room (Q. and A.) ... 68
Floors, Wood and Linoleum, Care of ... 135
Flower Hospital, War-Time Economies at—Bartine ... 220
Foerter, A. J.—Hospitals of Peoria Hold a Get-Together Meeting (Corr.) ... 459
Food: see also Banana; Bread; Diet; Fats; Nutrition.
Food Bulletins, Valuable ... 206
Food Conservation (Bread for War-Times) ... 286
Food Conservation (Help! Everybody Help!) ... 379
Food Conservation and Health—Dickinson ... 358
Food Conservation at a Mississippi Army Camp ... 323
Food Conservation at University Hospital, Philadelphia—Smith ... 446
Food Conservation in Hospitals (Hotels and Restaurants, Are They More Patriotic Than the Hospitals?) ... 340
Food Conservation Needed in Cantonments ... 59
Food, Conservation of, in Institutions ... 209
Food, Economical Preparation and Serving of—Graves ... 357
Food-Rationing and the Invalid in Great Britain ... 392
Food Service, Cooked, American—MacDonald ... 292
Foods, Animal, Their Composition and Fuel Value—Street ... 329
Foote Memorial Hospital, Jackson, Mich.—Robinson ... 417
Forceps for Controlling Hemorrhage after Enucleation of Tonsils ... 72
Fort Stanton, N. M., Marine Hospital Sanatorium ... 7
Fracture Extension Apparatus ... 147
Fractures of the Lower Extremities, New Splint for Treatment and Transportation of ... 385
France, Fighting the Other Foes of—Ross ... 368
France, Friends of (Bk. Rev.) ... 215
France, Improvised Hospital Trains in (Ab.) ... 67
France, Red Cross Hospitals, American, in ... 23
France, Tuberculosis in ... 125, 368
French Hospital at Jassy, Roumania (Ab.) ... 142
French Hospital Ship Fleet ... 56
Friends of France (Bk. Rev.) ... 215
Frick, O. M.—New Nurses' Home of Abingdon Memorial Hospital ... 396
Frink Linolite Operating Lamp ... 309
Fulmer, Harriet—The Value of a Social Service Department to a Tuberculosis Sanatorium ... 122
Fumigation in Hospitals (Q. and A.) ... 145

G

Gage, Harriet—The Admitting System in Use at the Milwaukee Children's Hospital ... 242
Gardening, British Nurses Take Up ... 447
Gardening, Landscape, for Institutions (Q. and A.) ... 144
Gardens, Vegetable, for Hospitals ... 128
Garrison, Charlotte Janes—Some Small Hospital Economies ... 133
Gauze, Surgical, Reclamation of ... 145
Gem Sterilizer ... 73
General Hospital, Private, Small, Standardization of—Hornsby and Others ... 95
Glidden Automatic Individual Butter-Cutter ... 147
Goldwater, S. S.—Hospital Finances and the War (Ed.) ... 190
Medical Organization to Meet War Needs (Ed.) ... 106
The Nursing Crisis ... 389
Soldiers and the Civic Hospitals ... 233
War-Time Savings (Ed.) ... 349
Goldwater, S. S., and Biscoe, M. B.—The New Children's Hospital at Denver, Colo ... 22
Goldwater, S. S., and Michler, William S.—New Building for Easton Hospital, Easton, Pa. ... 317
Goldwater, S. S., and Palmer and Hornbostel—Contagious Ward of the Morristown (N. J.) Memorial Hospital ... 171
Goldwater Resigns Chairmanship of Mayor's Committee on Hospital and Medical Facilities, Dr ... 360
Goodrich, Annie W.—Consecration of the Nursing Profession ... 435
Goodwin, Harold C.—The Hospital—A Teaching Institution ... 36
Gougerot—Anti-venereal Struggle (Ab.) ... 308
Grace Hospital, Detroit, Mich ... 425
Grace Hospital, Detroit, Nurses' Home of Lees ... 264
Grand-Pere—Service ... 285
Grand Rapids (Mich.) hospitals; Blodgett Memorial; Butterworth St Mary's ... 123, 124
Graves, Lulu—Economical Preparation and Serving of Food ... 357
Graves, Stuart—Venereal Disease Clinic ... 378
Gray, William, and Bacon, Asa S.—Economy in the Hospital Pharmacy ... 291
Gray's Universal Water Power Suction Pump ... 463
Great Britain, Heliotherapy in Records of an Experiment—Warner (Ab.) ... 142
Grimshaw—Nursing Crisis and the Two-Year Training Course (Corr.) ... 311
Guardian Angel Orphanage, Peoria (Ill.) Isolation Hospital of—Dox ... 88
Group Diagnosis (How a Great Clinic Works)—Hornsby ... 333
Grumbling the Unforgivable Sin ... 9

H

Halifax (N. S.), Great Explosion at—Kenney ... 431
Handicapped: see also Crippled
Handicapped Men, Cooking as Vocation for (Ed.) ... 111
Handicapped, Occupations for (see also Vocational Rehabilitation)—Occupations for Out-Patients at the Massachusetts General Hospital Bresnahan ... 90
Placement Bureau for the Handicapped—Jones ... 165
Happersett, C., and Rush, Louis H.—Kistler Memorial Home for Nurses of Lock Haven Hospital ... 101
Hartman, Julius, and Loomis, Arthur—Nurses' Home of the Norton Memorial Infirmary ... 331
Hatcher, R. A., and Sollmann, Torald—Reporting Accidents from Local Anesthetics (Corr.) ... 230
Health: see also Public Health.
Helen Newberry Nurses' Home—Leck ... 264
Helio-Marine Treatment at the Wallerstein Sanatorium at Arcachon ... 143
Heliotherapy—Maurizi (Ab.) ... 225
Heliotherapy in Great Britain—Records of an Experiment—Warner (Ab.) ... 142
Heliotherapy in Military Hospitals—Vidal (Ab.) ... 226
Heliotherapy in the Treatment of War Wounds—Cazin (Ab) ... 308
Henrietta Bird Memorial Hospital in China (Ab.) ... 225
Hertzler, Edith D.—The Kansas Public Health Car ... 14
Hill, E. L.—Patient Labor in Hospitals For the Insane ... 1
Holden Hospital, Carbondale, Ill ... 270
Hong Kong, China, Tung Wah Hospital—Browne ... 461
Hooveritis Gooding (Verse) ... 442
Horner, Rachel—The Workshop Idea ... 301
Hornsby, John A.—How a Great Clinic Works ... 333
Hornsby, John A., and Others—Standardization of Hospitals—Class VII, Small Municipal Hospitals ... 25
Classes VIII, Small Private General Hospitals; IX, Private General Sanatoriums; X, Industrial Hospitals; XI, XII, XIII, Tuberculosis Hospitals ... 95
Classes XIV, State Hospitals for the Insane and Epileptic; XV, Private Sanatoriums for Mental and Nervous Diseases, and XVI, Institutions for Alcoholic and Narcotic Addictions ... 187
Class XVII, Infectious Disease Hospitals ... 245
Hospital Associations: see American Hospital Association; Catholic Hospital Association; Ohio Hospital Association ... 455
Hospital a Teaching Institution—Goodwin ... 36
Hospital and House of Rest for Consumptives—Cleveland ... 116
Hospital and Medical Treatment of Injured Civil Employees of the United States—Trask ... 441
Hospital and Nursing Plans of the Council of National Defense ... 465
Hospital, Argument for Beauty in—Davison ... 277
Hospital Bookkeeping: see Accounting, Hospital.
Hospital, Community Function of (Ed.) ... 352
Hospital Corps, Navy, University Training for—Connely ... 159
Hospital Costs: see Costs, Hospital; Expenses, Hospital.
Hospital Field in Figures—A Survey of Conditions as They Actually Exist McClure ... 169
Hospital Field, Preparedness in (Ed.) ... 427
Hospital, Medical, and Special Meetings ... 373, 455
Hospital Organization in New York City for War Needs ... 232
Hospital Planning, National, for the Period After the War (Ed.) ... 272
Hospital Problems, Solving ... 36
Hospital Service During the War (Ed.) ... 350
Hospital Ships: see Ships, Hospital.
Hospital, Small, How It May Give High-Grade Service—Shelton ... 112
Hospital Supplies: see Supplies, Hospital.
Hospital Survey, First, of the American College of Surgeons (Ed.) 274
Hospital Surveys, Present Advisability of (Ed.) ... 427
Hospital Trains: see Trains, Hospital.
Hospital, World's Northernmost—Smith (Ab.) ... 307
Hospitals: see also Alcohol, Sanatoriums for Patients Addicted to; Base Hospitals; Children's Hospitals; City Hospitals; Communicable Diseases, Hospitals for; Community Hospitals; County Hospitals; Field Hospitals; Industrial Hospitals; Insane, Hospitals for; Marine Hospitals; Mental and Nervous Diseases, Sanatoriums for; Narcotics, Sanatoriums for Patients Addicted to; Red Cross Hospitals; Small Hospitals; Tuberculosis Hospitals.
Hospitals, Individual, Descriptions of—
Bronson Hospital, Kalazamoo, Mich.—Broyles ... 92
Charles Choate Memorial Hospital, Woburn, Mass.—Stevens ... 75
Children's Hospital, New, at Denver, Colo.—Biscoe and Goldwater ... 22
Cragmor Sanatorium, Colorado Springs, Colo.—Morton ... 336
Easton Hospital, Easton, Pa., New Building for—Michler and Goldwater ... 317

Hospitals, Individual, Descriptions of (Continued)
Guardian Angel Orphanage, Isolation Hospital of, at Peoria, Ill.—Des. ... 88
Holden Hospital, Carbondale, Ill. ... 270
Hospital and House of Rest for Consumptives—Cleveland ... 116
Hotel Dieu of Blois—Monclos ... 313
Jackson, Mich., Municipal Hospital—Robinson ... 417
Lexington, (Miss.) Community Hospital ... 115
Marine Hospital Sanatorium, Fort Stanton, N. M. ... 7
Morristown (N. J.) Memorial Hospital, Contagious Ward of—Palmer and Hornbostel and Godwater ... 171
Michael Reese Hospital, Isolation Building—Schmidt ... 153
Montefiore Home and Hospital, Mechanical Equipment of—Feldman ... 248
Nagasaki Hospital, Non-Restraint System in Insane Wards of—Ishida ... 393
Newport Naval Hospital, Location, Ward Plans for—Joslin ... 280
Saratoga Lake (N. Y.) General Hospital—Walker ... 82
Swedish Lutheran Hospital, New, at Moline, Ill.—Cervin ... 267
West Philadelphia Hospital for Women—Burrows ... 413
Wuchang, China, Modern Hospital for—Hutchins ... 346
Hospitals for War Use ... 264
Hospitals, Reorganization of Committee on ... 197
Hot-Air Apparatus, Universal ... 386
Hotel Dieu of Blois—Monclos ... 313
Hotel Service in the Hospital ... 189
Hotels and Restaurants, Are They More Patriotic Than the Hospitals? ... 340
Hypodermic Tray Devised by the Western Pennsylvania Hospital ... 229
Hutchins, Grace—A Modern Hospital for Wuchang, China ... 346

I

Ice, Harvesting, to Save Ammonia ... 221
Illinois Central Hospital, Chicago ... 424
Incinerators, Isolator, Gas-Operated ... 148
India, Private Nursing in ... 466
Industrial Cripples, Employment for—Stein ... 459
Industrial Doctors, Pennsylvania, Hold Meeting ... 372
Industrial Hospital, Standardization of—Hornsby and Others ... 95
Industrial Plant, First-Aid Equipment for (Q. and A.) ... 305
Industrial Rehabilitation; see also Vocational Reeducation of Crippled Soldiers.
Industrial Rehabilitation of Disabled Soldiers and Sailors ... 210, 310, 361, 451
Industrial Welfare ... 63
Industrial Welfare Work, Cooperative Plan for (Ed.) ... 109
Industries, Prison, Development of—Whitman ... 4
Infant Asylums, Artificial Feeding in—Viana (Ab.) ... 67
Infant Welfare Work in Padua—Valtorta (Ab.) ... 461
Infantile Paralysis (Use of Tent in Treating Anterior Poliomyelitis) Boorstein ... 19
Infectious Diseases, Hospitals for: see Communicable Diseases, Hospitals for.
Ink, Katherine—The Teaching Problem in the Small School ... 51
Inoculation Day ... 128
Insane and Epileptics, State Hospitals for—Hornsby and Others ... 178
Insane, Care of, in United States—Parant (Ab.) ... 67
Insane, Hospitals for: see also Mental and Nervous Diseases, Hospitals for.
Kankakee State Hospital, Open Cottages at—Cohn ... 411
Nagasaki, Non-Restraint System in Wards of—Ishida ... 393
Insane, Hospitals for, Patient Labor in—Hill ... 1
Insane, Nurses for in Sweden and Denmark ... 48
Insane, Red Cross Work for—Brainard ... 306
Insane Ward, Self-Government in ... 244
Instruments and Equipment, New ... 72, 147, 227, 309, 383, 463
Insurance, Social, and Hospital Care (Ab.) ... 383
Interns, Compensation for (Ed.) ... 274
Interns, Standards of Hospital Education for—Baldy ... 397
Invalid and Food-Rationing, in Great Britain ... 392
Invalid Bed, Conformable ... 384
Inventories, Hospital (Q. and A.) ... 232
Ishida, Noboru—A Japanese Friend Commends THE MODERN HOSPITAL (Corr.) ... 285
Ishiguro, Baron T.—Red Cross Hospitals of Japan (Corr.) ... 457
Isolation, Hospitals: see Communicable Diseases, Hospitals for.
Italian Wounded, American Hospital for ... 291

J

Jackson (Mich.) Municipal Hospital (Ed.) ... 428
Jackson, Mich., Municipal Hospital (W. A. Foote Memorial)—Robinson ... 417
Japan, Medical Progress in—Matsumoto (Corr.) ... 458
Japan, Red Cross Hospitals of—Ishiguro (Corr.) ... 457
Japan, Red Cross Society of, Album of ... 433
Japanese Rat, A Tularemic ... 340
Japanese Friend Commends THE MODERN HOSPITAL—Ishida (Corr.) ... 285
Japanese Hospitals, Nagasaki Hospital, Non-Restraint System in the Insane Wards of—Ishida ... 393
Japanese Nurse, Hisa Nagano: An Appreciation of a Wonderful Character ... 434
Jones, Ruth Montgomery—A Placement Bureau for the Handicapped ... 165
Joslin, R. K.—Isolation Ward Plans for Newport Naval Hospital ... 280
Journal-Lancet, Hospital Department for ... 196

K

Kafir Bread, Sprague and Loftin ... 289
Kalamazoo, Mich., Bronson Hospital—Broyles ... 92
Kankakee State Hospital, Open Cottages at—Cohn ... 411
Kansas Public Health, Our—Hertzler ... 14
Kaufman, Reginald Wright—From the Trenches to the Base Hospital ... 214
Kayess Portable Suicidal Apparatus ... 309
Kelly, Bertram—American Medical Aid to Paris Children ... 148
Kenney, W. W.—The Great Explosion at Halifax, N. S.—A Retrospect ... 431
Kennicott Sergeant Colorimeter ... 384
Kinyoun-Francis Steam and Formaldehyde Disinfector ... 463
Kistler Memorial Home for Nurses of Lock Haven—Happersett and Rush ... 101
Kitchens, Communal ... 62
Kitchen Utensils, Saving ... 63
Knife-Cleaning and Silver-Buffing Machine, Motor-Operated ... 229
Knight, Ellen—Impressions of a Military Hospital ... 312

L

Labor, Eight-Hour: see Eight-Hour Day.
Labor, Patient, in Hospitals for the Insane—Hill ... 1
Laboratory, Hospital, Self-Supporting ... 460
Laboratory Units, Mobile ... 58
Lakeside Hospital (Cleveland) Cafeteria in Nurses' Dining Room at ... 443
Lamp Operating, Linolite, Frink ... 309
Landscape Gardening for Institutions (Q. and A.) ... 144
Laundry, Hospital, Soap and Caustic in (Q. and A.) ... 460
Leck, Harriet—The Helen Newberry Nurses' Home ... 264
Summer Cottage Home for Nurses ... 388
Lemon—Arm-Support Attachment to Operating Tables ... 227
Lemon Traction Apparatus ... 147
Lenses, Navy Needs ... 145
Leper, Homeless, Asylum of Matoonga (Bombay)—Bastogi (Ab.) ... 382
Leper Hospital, Doctors Goldwater, McCoy, and Woodward to Select Site for ... 430
Leper Hospitals, Norway, Quinquennial Survey of—Lie ... 141
Leprosarium of Seville (Ab.) ... 67
Letters to the Editor ... 69, 146, 230, 285, 374, 455
Lewis, Mary E.—Eight-Hour Day Applied to Hospitals ... 50
Lexington (Miss.) Community Hospital ... 115
Liberty Field Hospital Ward—Osborn ... 366
Liberty Loan, Third (Again Our Country Calls) (Ed.) ... 276
Lie, H. P.—Quinquennial Survey of the Leper Hospitals in Norway (Ab.) ... 141
Lighting Dark Rooms (Q. and A.) ... 143
Linen and Blanket Buying at Current Prices (Q. and A.) ... 144
Linolite Operating Lamp, Frink ... 309
Little Journeys to Places and People Worth Knowing—Robinson ... 417
Lock Haven Hospital, Nurses of Kistler Memorial Home for—Happersett and Rush ... 101
Loflin, Ethel, and Sprague, Elizabeth C.—Bread for War-Times ... 286
Lombardy, American Relief Work in ... 450
London, American Hospital in (Ab.) ... 307
Loomis, Arthur, and Hartman, Julius—Nurses' Home of the Norton Memorial Infirmary ... 331
Louis, Marie—Report of the Nursing Resources in the State of New York as of Nov. and Dec., 1917 ... 136
Louisville, Ky.—Nurses' Home of the Norton Memorial Infirmary—Loomis and Hartman ... 331
Lying-In Hospitals; see Obstetrics.

M

MacDonald, Belle J.—American Cooked Food Service ... 292
MacMurchy, Helen—Individuality of Mentally Defective Persons ... 113
McClure, H. Tucker—Hospital Field in Figures; A Survey of Conditions ... 169
McCurdy Anesthesia Emergency Outfit ... 228
McEachern, Malcolm T.—Rotary Institute for Chest Diseases, Vancouver, B. C. ... 396
McGrath's Adjustable Walking Chair ... 464
McLean, Stafford—Standards for a Children's Hospital ... 324
McMillan, M. Helena—Short Courses in Nursing ... 203
McMurtrie, Douglas C.—Hospital Schools for Crippled Soldiers ... 235
An American School of Reeducation for Crippled Soldiers ... 451
Malaria Hospitals, Establishment of (Ab.) ... 307
Manny, Frank A.—Nutrition Clinics and Classes ... 129
Marcille and Doisy—A Mobile Surgical Hospital (Ab.) ... 226
Marcovigi, G.—A Military Hospital for War-Times (Ab.) ... 308
Marine Hospital Sanatorium, Fort Stanton, New Mexico ... 7
Massachusetts General Hospital, Out-Patient Occupations for—Bresnahan ... 90
Masseuses, Military, Training of ... 152
Maternity: see Obstetrics.
Matsumoto, T.—Medical Progress in Japan (Corr.) ... 458
Maurizi, M.—Heliotherapy (Ab.) ... 225
Maynard, F. P.—The New Calcutta Eye Hospital ... 67
Mayo Clinic (How a Great Clinic Works)—Hornsby ... 333
Mc: see as if spelled Mac.
Mechanical Equipment of Montefiore Home and Hospital—Feldman ... 248
Mechanical and Engineering Departments, Economy in—Chapman ... 445
Medea, E.—Wounded at Work in the Pavilions of the Ospedale Maggiore (Ab.) ... 382
Medical Dictionary, American Illustrated—Dorland (Bk. Rev.) ... 462
Medical Diseases, Nursing Course in—Clarke ... 198
Medical Organization to Meet War Needs—Goldwater (Ed.) ... 106
Medicine, Chinese ... 387
Memoirs of a Head Nurse. I. A Japanese Nurse, Hisa Nagano ... 434
Memorial Tablets, Inexpensive (Q. and A.) ... 231
Meningitis, Cerebrospinal, at a Training Camp ... 216
Mental and Nervous Diseases, Care of Patients with, in Amsterdam—Vos (Ab.) ... 225
Mental and Nervous Diseases, Private Sanatoriums for Hornsby and Others ... 178
Mentally Defective Persons, Individuality of—MacMurchy ... 113
Mercy Hospital, Muskegon, Mich ... 425
Mesureur—Isolation and Treatment of Discharged Tuberculous Soldiers in Paris (Ab.) ... 67
Michael Reese Hospital, Isolation Building of—Schmidt ... 153
Michael Reese Hospital Training Course for Nursery Maids ... 282
Michler, William S., and Goldwater, S. S.—New Building for Easton Hospital, Easton, Pa. ... 317
Middleburg Hospital, History of—Schoute (Ab.) ... 141
Milan, American Red Cross Shelter Canteens in ... 450
Milan, Hospital Systematization in, with Reference to Construction of New Hospital (Ab.) ... 142
Military Convalescent Hospitals, Canadian ... 295
Military Hospitals, Canadian, Work of Dietitian in—Ryley ... 135
Military Reconstruction Work, Canadian, Reorganization of ... 269
Military Hospital During the Revolution, Shippen's First Draft of a Plan for the Organization of the (Ab.) ... 382
Military Hospital for War-Times—Marcovigi (Ab.) ... 308

Military Hospital, Impressions of Knight 312
Military Hospitals: see also War Hospitals.
Military Hospitals
Hotel Dieu of Blois Monclos 313
Liberty Field Hospital Ward Osborn 366
Marine Hospital Sanatorium, Fort Stanton, N. M. 7
Military Hospital Commission of Canada, Vocational Reeducation Work of 362
Military Hospitals, Hehotherapy in Vidal (Ab.) 226
Military Hospitals, Organization of, for Venereal Patients—Pautrier (Ab.) 225
Military Patients, Care of in Civil Hospitals—Goldwater 233
Military Training, Universal (Ed.) 32
Military Training, Universal, Principle Indorsed 21
Mills Electric Motor Chair 311
Milwaukee Children's Hospital, Admitting System in Use at 242
Minnequa Hospital (Pueblo, Colo.), New Nurses' Home for Corwin 176
Minnesota Dietitians' Association, Organization of 289
Mississippi Army Camp, Food Conservation at 323
Mississippi Valley Conference on Tuberculosis to Meet in Ohio 456
Mississippi Valley Sanitarium Association, Report of 373
Mobile Surgical Hospital—Doisy and Marcille (Ab.) 226
Modern Hospital, The—A Japanese Friend Commends Ishida (Corr.) 385
Modern Hospital This Year (Ed.) 34
Moline, Ill., New Swedish Lutheran Hospital at—Cervin 267
Monclos, Katherine de Hotel Dieu of Blois 313
Montefiore Home and Hospital, Mechanical Equipment of—Feldman. 248
Montreal General Hospital, Bulletins of 440
Moore, V. M. Installation of Modern Roentgen Equipment at a Moderate Expense 409
Morristown (N. J.) Memorial Hospital, Contagious Ward of—Palmer and Hornbostel, and Goldwater 171
Morritt, Walter—Economy in the Management of Small Hospitals .. 79
Morton, Irene—Cragmor Sanatorium, Colorado Springs 336
Mothers and Children, Lives and Health of—Davis 283
Mouilleau-Arcachon, Sanatorium for Protestant Children at (Ab.) ... 141
Mount Sinai Hospital, New York, Contribution of to National Service 307
Municipal Hospital, Jackson, Mich.—Robinson 417
Muskegon (Mich.) Mercy Hospital 425
Myers, D. B.—Treatment and Training of Disabled at Queen Mary's Convalescent Auxiliary Hospital, Roehampton (Ab.) 461

N

Nagasaki Hospital, Non-Restraint System in the Insane Wards of—Ishida 393
Narcotics and Alcohol, Private Sanatoriums for Patients Addicted to —Hornsby and Others 178
National Conference of Social Work 373
National Service, Contribution of Mount Sinai Hospital (New York) to 307
National Service, Hospital People in 141
Naval Training Camp, United States, Checking Cerebro-spinal Meningitis at 216
Navy, British, Stowage of Wounded on Ships of 57
Navy Hospital Corps, University Training for—Connely 159
Negligence of Nurse, Hospital Held Not Liable for 266
Nervous and Mental Diseases: see Mental and Nervous Deases.
Netherlands, Country Districts of, Care of Sick in—Wortman (Ab.) .226
New and Nonofficial Remedies, 1918 (Bk. Rev.) 462
New Instruments and Equipment 72, 147, 227, 309, 383, 463
New York Association of Dietitians, Conservation Dinner of 444
New York Children's Clearing Bureau (Ed.) 108
New York, Children's Clearing Bureau of—Brooks 85
New York City, Hospital Organization in, for War Needs 232
New York State, Report of Nursing Resources in—Louis 436
Newport Naval Hospital, Isolation Ward Plans for—Joslin 280
Nifong, Frank G.—A Plea for the Establishment of Standardized County General Hospitals (Ab.) 66
Northernmost Hospital, World's—Smith (Ab.) 307
Norton Memorial Infirmary, Nurses' Home of —Loomis and Hartman 331
Norway Leper Hospitals, Quinquennial Survey of—Lie (Ab.) 141
Nurse Corps, Army 218
Nurse, Special, and Diet Kitchen Problem (Q. and A.) 143
Nursery Maids, Training School for, at Michael Reese Hospital 282
Nurses Aids, Need of, to Meet War Crisis—Goldwater 389
Nurses, Anesthesia Course for (Q. and A.) 381
Nurses, Annual Convention of the National Organizations of 355
Nurses, British, Take Up Gardening 447
Nurses' Homes—
Abingdon Memorial Hospital, Abingdon, Pa., Nurses' Home of—Frick 396
Efficiency in the Design of Nurses' Homes—Sturm 403
Grace Hospital, Detroit, Helen Newberry Nurses' Home of—Leck .264
Kistler Memorial Home for Nurses of Lock Haven (Pa.) Hospital —Happersett and Rush 101
Minnequa Hospital (Pueblo, Colo.), New Nurses' Home for—Corwin 176
Norton Memorial Infirmary (Louisville, Ky.), Nurses' Home of —Loomis and Hartman 331
Nurses' Homes and Some of Their Requirements—Cervin 28
Summer Cottage Home for Nurses—Leck 388
Nursing and Hospital Plans of the Council of National Defense 465
Nursing Course in Medical Diseases—Clarke 198
Nursing Course, Preparatory in Vassar College—Stewart 204
Nursing, Courses in, Short—McMillan 203
Nursing Crisis and the Two-Year Training Course—Grimshaw (Corr.) 374
Nursing, Department of 50, 120, 198, 283, 354, 435
Nursing Education: see Nursing Courses; Small Hospital, Educational Problems in; Training Courses; Training Schools.
Nursing Profession and the National Crisis (Ed.) 275
Nursing Profession, Consecration of—Goodrich 435
Nursing Resources in State of New York—Louis 436
Nursing Service, Public Health, Increasing 356
Nutrition Camp for Boys 74
Nutrition Clinics and Classes—Manny 129
Nutrition, Elementary Terms of—Street 10
Nyno, A. Vocational Reeducation (Ab.) 142

O

Oat Bread—Sprague and Lofin 288
Obstetric and Prenatal Clinic, Pay—Putnam 139
Obstetrics, Rural Davis 283
Obstetrics Service Building of West Philadelphia Hospital for Women Burrows 413
Occupational Therapy: see Handicapped, Occupations for; Industrial Rehabilitation; Vocational Rehabilitation.
Occupations for Insane Hill 1
Occupations for Out-Patients at the Massachusetts General Hospital Bresnahan 90
Occupations for Insane (Red Cross Work Among Mental Patients)—Brainard 306
Ohio Hospital Association, Fourth Annual Meeting of 455
Ohio Tuberculosis Hospital Superintendents' Conference 456
Oleomargarine: see also Fats.
Oleomargarine and Other Fats 443
Oleomargarine, Coloring A Warning (Ed.) 194
Oleomargarine, Publicly Supported Hospitals Not Subject to Penalty for Coloring 440
Open Cottages at Kankakee State Hospital—Cohn 411
Open Wards for Insane at Nagasaki Hospital—Ishida 393
Operating Lamp, Linolite, Frink 309
Operating Room Floor Dressing (Q. and A.) 68
Operating Room for Bones and Joints and for Extraction of Foreign Bodies—Petit de la Villeon (Ab.) 308
Operating Room, Waiting Room for Visitors near (Q. and A.) 306
Operating Tables, Useful Attachment to 227
Ophthalmologic Hospital: see Eye Hospital.
Orientation of Hospital Buildings—Bertarlli (Ab.) 225
Osborn, Henry Fairfield—Liberty Field Hospital Ward 366
Ospedale Maggiore, Wounded at Work in the Pavilions of—Medea (Ab.) 382
Ottumwa Hospital, Ottumwa, Iowa 425
Out-Patient Department and Dispensary in War-Time, Problems and Place of 221
Out-Patient Department, Volunteer Workers in (Ed.) 353
Out-Patient Service, Standards of as Interpreted at Peter Bent Brigham Hospital, Boston 123
Out-Patient Work, Volunteer in—Smith 344
Out-Patients, Occupations for, at Massachusetts General Hospital—Bresnahan 90
Owl that Never Spoke (Verse) 444

P

Padua, Infant Welfare Work in—Valtorta (Ab.) 461
Pallanza, Tuberculosis Pavilion, Patients of Municipal Hospital at .. 67
Palmer and Hornbostel and Goldwater, S. S.—The Contagious Ward of Morristown (N. J.) Memorial Hospital 171
Paralyzed; see Crippled.
Parant, V. Care of the Insane in the United States of America (Ab.) 67
Paris Children, American Medical Aid to—Kelly 448
Patient Labor in Hospitals for the Insane—Hill 1
Pautrier—Organization of Military Hospitals for Venereal Patients (Ab.) 225
Pennsylvania an Example of the Advantages of State-Wide Control of Tuberculosis—Schaeffle 17
Pennsylvania, Hospital Standards in, Fight for (Ed.) 426
Pennsylvania Industrial Doctors Hold Meeting 372
Pennsylvania, Venereal Diseases in Hospitals of (Ed.) 194
Peoria Hospitals Hold a Get-Together Meeting—Foerter (Corr.) 459
Peoria, Ill., Isolation Hospital of Guardian Angel Orphanage—Dox .. 88
Perry, Charlotte Mandeville—Some Hindrances to the Adoption of a Universal Standard in Small Hospitals 117
Personal Touch in the Hospital (Ed.) 110
Peter Bent Brigham Hospital, Boston, Standards of Out-Patient Service at 123
Petit de la Villeon—Operating Room for Bones and Joints and for Extraction of Foreign Bodies (Ab.) 308
Pharmacy, Hospital, Economy in—Bacon and Gray 291
Philanthropy and Public Health 129
Physicians in Army Training (Ed.) 193
Poliomyelitis, Anterior, Treating, Use of a Tent in—Boorstein 49
Porter, Charles A., and Carter, Herbert K.—Bookkeeping for Small Hospitals and Allied Institutions 182, 254, 341
Pregnant Women, Eugenics Limited to the Care of, Advocating Expectant Mother Hospitals and Dispensaries—Smith (Ab.) .. 382
Prenatal Clinic, Pay, a Successful—Putnam 139
Prevention of Blindness—Maternity 139
Prince Crossing, Ill., Country Home for Convalescent Children 42
Prison Industries, Development of—Whitman 4
Promoters and Hospital People 304
Protein, Meaning of Street 10
Public Health Car, Kansas—Hertzler 14
Pueblo, Colo., New Nurses' Home for Minnequa Hospital—Corwin .. 176
Public Health Nursing Service, Increasing 356
Public Health, Philanthropy and 129
Pump, Gray's Universal Water Power Suction 463
Putnam, Mrs. William Lowell—A Successful Pay Prenatal Clinic 139

Q

Queen Mary's Convalescent Auxiliary Hospital, Roehampton, Treatment and Training of Disabled at—Myers (Ab.) 461
Queries and Answers 68, 143, 231, 305, 380, 460

R

Rau, Virginia, and Butler, Lucile A.—The Hospital Care of Contagious Diseases 195
Reconstruction Work, Military, Canadian, Reorganization of 269
Red Cross, American, of Children's Bureau 449
Red Cross, American, Children's Bureau of in Paris—Kelly 448
Red Cross, American, Surgeon-General Calls on, to Supply Nurses .. 312
Red Cross, Anti-tuberculosis Work, American, in France—Ross ... 368
Red Cross Canteens 377

Red Cross Canteens, Lewis-Lane Chef Drinks for Soldiers) . 316
Red Cross Hospitals, American, in France . . 23
Red Cross Hospital, Canadian, A New . . . 54
Red Cross Hospital in the Liscard Islands . . . 219
Red Cross Hospitals of Japan, Liggins (Corr.) . . 457
Red Cross Institute for Crippled and Disabled Men of New York City, McMurtrie . . 451
Red Cross Shelter Canteens, American, in Milan . . 450
Red Cross Society of Japan, Album of . . 433
Red Cross Work Among Mental Patients, Brainard . . 306
Redfern, Helen L.—The Visiting Teacher . . 354
Refrigeration for Institutions, Wheeler . . 173
Rehabilitation: see also Industrial Rehabilitation; Vocational Rehabilitation.
Rehabilitation, Problem of . . 210
Remedies, New and Nonofficial (Ex. Rev.) . . 462
Research, Relation of the Hospital Superintendent to—Collins . . 261
Revolution, Military Hospitals During, Text of William Shippen's First Draft of a Plan for the Organization of (Ab.) . . 382
Rice Bread—Sprague and Lodin . . 288
Richmond (England) Permanent Home for Crippled Sailors and Soldiers, The "Star and Garter"—Treves (Ab.) . . 461
Robinson, Margaret J.—Little Journeys to Places and People Worth Knowing . . 417
Rochefort-en-Yvelines, Auxiliary Hospital of (Ab.) . . 307
Rochester Dental Dispensary (Ab.) . . 66
Roehampton, Queen Mary's Convalescent Auxiliary Hospital, Treatment and Training of Disabled at—Myers (Ab.) . . 461
Roentgen-Ray: see X-Ray.
Rogers, L. S.—A Very Small Community Hospital . . 115
Rose, Mlle. de, Oeuvre de . . 119
Ross, Mary—Fighting the Other Foes of France . . 368
Rotary Institute for Chest Diseases, Vancouver, B. C.—McEachern . . 396
Roumania, French Hospitals in at Jassy (Ab.) . . 142
Roumanian Medical and Hospital Conditions (Ab.) . . 370
Rush, Louis H., and Happersett, C.—Kistler Memorial Home for Nurses of Lock Haven Hospital . . 101
Rye Bread—Sprague and Lodin . . 288
Ryley, Violet M.—The Work of the Dietitian in the Canadian Military Hospitals . . 135

S

St. Anthony's Hospital, Carroll, Iowa . . 425
St. Mary's Hospital, Detroit, Mich . . 425
St. Mary's Hospital, Grand Rapids, Mich . . 423
St. Thomas' Hospital Speech Clinic . . 241
Sanatorium Blanket Problem—Scheller . . 84
Sanitarium Association, Mississippi Valley, Report of . . 373
Saranac Lake General Hospital, Saranac Lake, N. Y. Walker . . 82
Savings Stamps, War . . 219
Scale, Office and Bathroom . . 229
Schaedle, Karl—Pennsylvania an Example of the Advantage of State-Wide Control of Tuberculosis . . 17
Scheller, H. M.—The Proper Way to Make a Bed . . 205
The Sanatorium Blanket Problem . . 84
Schmidt, Richard E. Hospitals for Communicable Diseases . . 153
School, Small, Teaching Problem in—Ink . . 51
Schoute, D.—History of the Middleburg Hospital (Ab.) . . 141
Selden, Elizabeth—Reclamation of Used Alcohol . . 60
Self-Government, Patient, in an Insane Ward . . 244
Service, Robert W.—Grand-Pere . . 285
Seville, Leprosarium of (Ab.) . . 67
Shell-Shock Patients, Color Ward for . . 16
Shelton, F. W. How the Small Hospital May Give High-Grade Service . . 112
Sherman Hospital, Elgin, Ill . . 424
Ship Fleet Hospital, French . . 56
Ships, Hospital, British . . 56
Shippen's First Draft of a Plan for the Organization of the Military Hospital during the Revolution, Text of (Ab.) . . 382
Signal Systems (Q. and A.) . . 145
Silver-Buffing and Knife-Cleaning Machine, Motor-Operated . . 229
Sinusoidal Apparatus, Portable . . 309
Skang, Hospital . . 175
Small Hospital, Educational Problem in—Wheeler . . 120
Small-Hospital Management . . 151
Small-Hospital Number (Ed.) . . 111
Small-Hospital Superintendent, Difficulties of (Corr.) . . 146
Small-Hospital Superintendent, Opportunity of (Ed.) . . 109
Small Hospital, Views of, on Hospital Standardization—Charlesgate Hospital (Corr.) . . 375
Small Hospitals and Allied Institutions, Bookkeeping for—Carter and Porter . . 182, 254, 341
Small Hospitals, Economy in Management of—Morritt . . 79
Small Hospital, Individual, Descriptions of
Bronson Hospital, Kalamazoo, Mich. Broyles . . 92
Choate Memorial Hospital, Woburn, Mass. Stevens . . 75
Guardian Angel Orphanage, Isolation Hospital of Dox . . 88
Holden Hospital, Carbondale, Ill . . 270
Hospital and House of Rest for Consumptives, Bolton Road, Inwood-on-Hudson, New York—Cleveland . . 116
Lexington, Miss., Community Hospital . . 115
Mercy Hospital, Muskegon, Mich . . 425
Ottumwa Hospital, Ottumwa, Ia . . 425
St. Anthony's Hospital, Carroll, Ia . . 425
Saranac Lake General Hospital, Saranac Lake, N. Y.—Walker . . 82
Sherman Hospital, Elgin, Ill . . 424
Smith, A.—Eugenics Limited to the Care of Pregnant Women, Advocating Expectant Mother Hospitals and Special Dispensaries (Ab.) . . 382
Smith, C.—World's Northernmost Hospital (Ab.) . . 307
Smith, Charles Hendee—Volunteer in Out-Patient Work . . 344
Smith, Marion E.—Food Conservation at University Hospital, Philadelphia . . 146
Soap and Caustic in the Hospital Laundry (Q. and A.) . . 460
Soap, Saving of . . 81
Social Hygiene—Venereal Diseases . . 378
Social Insurance and Hospital Care (Ab.) . . 383
Social Service Department, Value of, to a Tuberculosis Sanatorium—Fulmer . . 122
Soldier Without Hands Turns Farmer . . 59
Social Work, National Conference of . . 373
Soldier's Emergency Ration . . 139
Soldiers and the Civil Hospitals—Goldwater . . 233
Soldiers, Control of in Hospitals By War Department (Ed.) . . 192
Soldiers, Crippled: see Crippled Soldiers; Industrial Rehabilitation of Crippled Soldiers and Sailors.
Sollmann, Torald, and Hatcher, R. A.—Reporting Accidents from Local Anesthetics (Corr.) . . 230
South Carolina, Child Welfare in . . 170
Spain, Lepers of (Leprosarium of Seville) (Ab.) . . 67
Speech Clinic, St. Thomas' Hospital . . 241
Sphagnum and Wood Pulp for Surgical Dressings . . 126
Spitzbergen, World's Northernmost Hospital in—Smith (Ab.) . . 307
Splint for Treatment and Transportation of Fractures of the Lower Extremities, New . . 385
Sprague, Elizabeth C., and Lodin, Ethel—Bread for War-Times . . 286
St.: see as if spelled Saint.
Standard, Universal, Hindrances to Adoption of in Small Hospitals—Perry . . 117
Standardization Article This Month (Ed.) . . 352
Standardization, Further Comments on—Dorr . . 27
Standardization of Hospital Administration . . 117
Standardization of Hospitals . . 380
American College of Surgeons, Aims of—Bowman (Corr.) . . 377
American College of Surgeons and the Standardization Movement (Ed.) . . 348
American College of Surgeons, Hospital Survey of (Ed.) . . 274
American College of Surgeons, Standardization Well Started by . . 41
Catholic Hospital Association Cooperating in . . 52
Children's Hospital, Standards for—McLean . . 324
Headway Toward (Ed.) . . 107
Standards of Hospital Education for Interns—Baldy . . 397
Views of a Small Hospital on Standardization—Charlesgate Hospital (Corr.) . . 375
Standardization of Hospitals—Hornsby and Others—
Class VII, Small Municipal Hospitals . . 25
Classes VIII, Small Private Hospitals; IX, Private General Sanatoriums; X, Industrial Hospitals; XI, XII, and XIII, Tuberculosis Hospitals . . 95
Classes XIV, Institutions for the Insane and Epileptics; XV, Institutions for Nervous and Mental Diseases, and XVI, Institutions for Alcohol and Narcotic Addiction . . 178
Class XVII, Infectious Disease Hospitals . . 245
Standardization of the Work and Training of the Dietitian—Eckman . . 52
Standards, Hospital, Fight for in Pennsylvania (Ed.) . . 426
Standards of Out-Patient Service as Interpreted at Peter Bent Brigham Hospital, Boston . . 123
"Star and Garter" (Richmond), a Permanent Home for Crippled Sailors and Soldiers—Treves (Ab.) . . 461
Staring, H. L.—Control of Exercise in Pulmonary Tuberculosis . . 104
Statistics, Hospital, for the United States (The Hospital Field in Figures)—McClure . . 169
Stein—Employment for Industrial Cripples (Corr.) . . 459
Sterilizer, Gem . . 73
Stevens, Edward E.—Transformation of a Dwelling House Into a Hospital . . 75
Stewart, Isabel M.—The Nursing-Preparatory Course in Vassar College . . 204
Street, John Phillips—Animal Foods, Their Composition and Fuel Value . . 329
The Elementary Terms of Nutrition . . 10
Sturm, Meyer J. Nurses' Homes: A Plea for Efficiency in Their Design . . 103
Suction Pump, Universal Water Power . . 463
Sugar-Saving in Hotels . . 63
Sunlight Treatment: see Heliotherapy.
Superintendent, Relation of to Research—Collins . . 261
Superintendents, School for (Q. and A.) . . 69
Supervisors, Capable, With Out-of-Date Methods (Q. and A.) . . 305
Supplies, Hospital, Present-Day Conditions Applying to Purchase of—Wallerich . . 196
Supplies, Hospital, Priority in Shipment of . . 292
Surgeon, Hospital, His Economies and the Standardization of His Work—Duffield (Ab.) . . 66
Surgeon, The—Wetmore (Verses) . . 213
Surgical Dressings, Sphagnum Moss and Wood Pulp for . . 126
Surgical Dressings, Standardization of, as a War-Time Economy . . 87
Surgical Dressings, Turkish Toweling, in Italian Military Hospitals . . 253
Surgical Hospital, Mobile—Doisy and Marcille (Ab.) . . 226
Surgical Tuberculosis, Sanatorium for Patients with—Dekker (Ab.) . . 308
Sweden and Denmark, Nurses for Insane in . . 48
Swedish Lutheran Hospital, New, at Moline, Ill.—Cervin . . 267
System Made Top-Heavy (Q. and A.) . . 68

T

Taxation of Hospitals (Q. and A.) . . 460
Teacher, Visiting—Redfern . . 354
Teaching Problem in the Small School—Ink . . 51
Teller, George L., and Wesener, J. A.—Edible Fats . . 54
Tennessee Legislation for Cleansing of Public Eating Utensils (Ed.) . . 353
Therapeutic Machine, Motor-Operated . . 311
Theromer, DeVilbiss . . 384
Tonsils, Hemorrhage after Enucleation of, Forceps for Controlling . . 72
Training Camps: see Army Training Camps.
Training Course, Two-Year, and the Nursing Crisis—Grimshaw (Corr.) . . 374
Training School, Health Conservation in . . 121
Training School, Small, Teaching Problem in—Ink . . 51
Training Schools of Small Hospitals . . 120
Trains, Hospital, in France, Improvised (Ab.) . . 67
Trains, Hospital, British . . 347
Trask, John W.—Hospital and Medical Treatment of Injured Civil Employees of the United States . . 141
Treves, Frederick—The "Star and Garter," Richmond: a Permanent Home for Paralyzed and Disabled Sailors and Soldiers (Ab.) . . 461
Tuberculosis Class, Pratt . . 31
Tuberculosis Conference, Mississippi Valley, to Meet in Ohio . . 456
Tuberculosis, Demand for More Study of (Ed.) . . 35
Tuberculosis, Farm Colonies in the Treatment of (Ab.) . . 462
Tuberculosis, Home Treatment versus Sanatorium Treatment, With Some Observations on Climate—Wilkes (Ab.) . . 67
Tuberculosis Hospital Superintendents, Ohio, Conference of . . 456

Tuberculosis Hospitals: see also Tuberculosis Sanatoriums
Cragmor Sanatorium, Colorado Springs—Morton ... 336
Hospital and House of Rest for Consumptives—Cleveland ... 116
Pallanza, Tuberculosis Pavilion of Municipal Hospital at (Ab.) ... 67
Tuberculosis Hospitals, Standardization of—Hornsby and Others ... 95
Tuberculosis in France ... 125
Tuberculosis in France, Campaign of Rockefeller Foundation and American Red Cross Against—Ross ... 368
Tuberculosis, Means of Combating (Ab.) ... 225
Tuberculosis Pavilion of Municipal Hospital at Pallanza (Ab.) ... 67
Tuberculosis, Pulmonary, Control of Exercise in—Staring ... 104
Tuberculosis Sanatorium Blanket Problem—Scheller ... 84
Tuberculosis Sanatorium, Value of a Social Service Department to—Fulmer ... 122
Tuberculosis Sanatoriums: see also Tuberculosis Hospitals.
Tuberculosis Sanatoriums, Workshops for—Horner ... 301
Tuberculosis, State-Wide Control of, Pennsylvania an Example—Schaeffle ... 17
Tuberculosis, Struggle with—Wortman (Ab.) ... 382
Tuberculosis, Surgical, Sanatorium for Patients with—Dekker (Ab.) ... 308
Tuberculosis, Vancouver Institute for (Rotary Institute for Chest Diseases)—McEachern ... 396
Tuberculous Cases, Open-Air Industrial Experiment for; The Hairmyres Colony, Lanarkshire—Bardswell (Ab.) ... 142
Tuberculous Soldiers in Paris, Discharged, Isolation and Treatment of—Mesureur (Ab.) ... 67
Turkish Toweling, Dressings of, in Italian Military Hospitals ... 253

U

United States, Care of Insane in Parant (Ab.) ... 67
United States, Injured Civil Employees of, Hospital and Medical Treatment of—Trask ... 141
Universal Electrically Driven Bone Surgery Equipment with Instantaneous Stopping Device ... 149
University Hospital (Philadelphia), Food Conservation at—Smith ... 446

V

Valtorta, F.—Assistance of Legitimate Babies of Poor Mothers in Padua (Ab.) ... 161
Vancouver, B. C., Rotary Institute for Chest Diseases—McEachern ... 396
Vassar College, Nursing-Preparatory Course in—Stewart ... 204
Vegetable Gardens for Hospitals ... 128
Vegetable-Paring and Washing Machine ... 386
Vegetable Supply, Winter's Drying Versus Canning as Source of ... 412
Venereal Disease Clinic—Graves ... 378
Venereal Diseases, Hospital Door Open to (Ed.) ... 194
Venereal Dispensary, New in Bordeaux (Ab.) ... 141
Venereal Dispensaries—Gougerot (Ab.) ... 308
Venereal Patients, Organization of Military Hospitals for—Pautrier (Ab.) ... 225
Viana, O.—Artificial Feeding in Infant Asylums (Ab.) ... 67
Vidal, E.—Heliotherapy in Military Hospitals (Ab.) ... 225
Visitors' Dining Room ... 295
Visitors, Waiting Room for, Near Operating Room (Q. and A.) ... 306
Vocational Reeducation—Nyno (Ab.) ... 142
Vocational Rehabilitation: see also Handicapped, Occupations for; Industrial Rehabilitation.
Vocational Rehabilitation for Crippled Soldiers—
Belgian Soldiers, Wounded, Rehabilitation of ... 116
Work-Shop Idea—Horner ... 301
Handicapped, A Placement Bureau for—Jones ... 185
Hospital Schools for Crippled Soldiers—McMurtrie ... 235
Little Chat With Private Pat ... 362
Silver Lining, Increased Earning Power from Vocational Reeducation ... 383
Soldiers, Disabled, New Occupations for ... 164
Vocational Rehabilitation of Disabled Persons, Federal Legislation for ... 453
Vocational Training and Hospitals—Borden (Ab.) ... 462
Volunteer in Out-Patient Work—Smith ... 344
Volunteer Workers (An Administrative Hospital Economy) (Ed.) ... 351
Volunteer Workers in the Out-Patient Department (Ed.) ... 353
Vos, W. Care of Nervous and Mental Diseases in Amsterdam (Ab.) ... 225

W

Walker, Harry Leslie—Saranac Lake General Hospital, Saranac Lake, N. Y. ... 82
Wallerich, George W.—Present-Day Conditions Applying to the Purchase of Hospital Supplies ... 196
Wallerstein Sanatorium, at Arcachion, Helio-Marine Treatment at ... 143
War and Laughter ... 392
War and the Hospitals (Ed.) ... 192
War Breads: see Breads, War.
War Hospital, Art From ... 127
War, Hospital Service During (Ed.) ... 350
War Hospitals: see also Military Hospitals.
War Needs, Hospital Organization in New York City for ... 232
War Needs, Medical Organization to Meet—Goldwater (Ed.) ... 106
War Service Committee of American Hospital Association ... 208
Communication from ... 47
Meeting of ... 47
War, The: Its Hospital, Medical, and Nursing Aspects ... 56, 125, 214, 286, 366, 448
War-Time Economies at Flower Hospital—Bartine ... 220
War-Time Institution Economies ... 60, 132, 219, 291, 445
War-Time Savings—Goldwater (Ed.) ... 349
War Workers, Hints for ... 125
War Wounds, Heliotherapy in Treatment of—Cazin (Ab.) ... 308
War Use, Hospitals for ... 364
Warner, Charlotte—Heliotherapy in Great Britain—Records of an Experiment (Ab.) ... 142
Wesener, J. A., and Teller, George L.—Edible Fats ... 54
West Philadelphia Hospital for Women, New Maternity Building for Burrows ... 413
Western Pennsylvania Hospital Hypodermic Tray ... 229
Wetmore, W. O.—The Surgeon ... 213
Wheeler, Claribel—Educational Problem of the Small Hospital ... 120
Wheeler, G. H.—Refrigeration for Institutions ... 173
Whitman, John L.—The Development of Prison Industries ... 4
Wilkes, W. O.—Home Treatment Versus Sanatorium Treatment for Tuberculosis, with Some Observations on Climate (Ab.) ... 67
Wilson, Robert J.—How to Avoid Monotony of Sanatorium Diets (Corr.) ... 230
Woburn, Mass., Charles Choate Memorial Hospital—Stevens ... 92
Wolf Universal Hot-Air Apparatus ... 386
Women, West Philadedlphia Hospital for—Burrows ... 413
Wood Pulp and Sphagnum for Surgical Dressings ... 126
Work, Plain Old-Fashioned, and the Delinquent Boy—Blakey (Corr.) 69
Workshops for Tuberculosis Sanatoriums (Work-Shop Idea)—Horner ... 301
Wortman, J. L.—Care of Sick in the Country Districts of the Netherlands (Ab.) ... 226
Struggle With Tuberculosis (Ab.) ... 382
Wounded, Work for: see Crippled Soldiers.
Wounded, Itinerary of, from the Trenches to Blighty ... 335
Wounded, Stowage of, on Ships of the British Navy ... 57
Wounded, Transportation of, by Aeroplane (Ab.) ... 461
Wounds, War, Heliotherapy in the Treatment of—Cazin (Ab.) ... 308
Writing Appliances, Automatic, for Blind Soldiers ... 46
Wuchang, China, A Modern Hospital for—Hutchins ... 346

X

X-Ray Equipment, Installation of, at Moderate Expense—Moore ... 409
X-Ray Set, Portable, for Field Service ... 383
X-Ray Illuminator, A Convenient—Bailey and Denison ... 105
X-Ray Reducing Camera ... 310

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. X *January, 1918* No. 1

PATIENT LABOR IN HOSPITALS FOR THE INSANE*

Methods Employed in Interesting Patients in Work—Parole Patients Distributed to Various Departments—Soap, Rugs, Clothing, Bandages, etc. Made by Patient Labor.

By E. L. HILL, M. D., Managing Officer, Jacksonville State Hospital, Jacksonville, Ill.

IN the fall of 1915 I was authorized to spend two weeks with Dr. Singer at the State Psychopathic institute at the Kankakee State Hospital to receive instruction in psychiatry. Among the number of good lectures by Dr. Singer, the one which was of special interest to me was the one on "Reeducation of the Insane."

After the lecture Dr. Singer took us on the wards and showed us a class of twelve or fifteen patients instructed by Dr. Clark. The great improvement which these patients had made was so striking that we immediately became intensely interested. This, coupled with the very interesting talks which it was my pleasure to have with Dr. Zeller, then state alienist, and with Mr. Bowen, present superintendent of institutions, led me to believe that we at the Jacksonville State Hospital were not doing all that could be done for our patients.

I came back from the Kankakee State Hospital with a determination to start some movement for the benefit of our patients. This subject was brought up before the medical staff and gone into exhaustively. We hit upon the idea of introducing calisthenics on the wards, as our patients, with the exception of those who were employed, were receiving but little exercise during the winter months outside the wards. Printed instructions, consisting of arm, foot, and body movements, were placed upon the wards, and the attendants instructed to see that these were carried out. We designated one hour in the forenoon and one hour in the afternoon, respectively. After the patients had practiced these exercises for two months, we found that some of them were showing great interest in these exercises, in their surroundings, and in themselves, and seemed to be much happier, better contented, and less destructive on the wards, and in consequence became better disciplined. The ones who showed the greatest interest and seemed to be better fitted, both mentally and physically, were turned over to a detail man for employment.

The detail employee may be either male or female, but must be a graduate nurse or an attendant of long experience in handling and working patients. He is assigned to do some special work with his patients by the industrial supervisor under the direction of the management. The industrial supervisor is furnished by the doctor in charge of these patients a list of those who have shown greater interest in the exercises than the others; these go to make up the detail group. This group is called our ABC class.

As the members of this detail, or ABC class, show greater improvement they are given a ground parole, after having been passed upon favorably by the attendant on detail, the industrial supervisor, and the assistant superintendent. The doctor in charge of these patients is expected to go carefully into each patient's history and court records to ascertain if there is anything that would contra-indicate granting him this parole. After careful investigation and a favorable recommendation the patient's parole card is signed and given him and he is assigned to some duty or work, with instructions to report to the one in charge of his particular department.

*Paper read at the twenty-second annual Illinois Conference of Charities and Correction, Joliet, Ill., October 26, 1917.

After having received his parole card, which entitles him to the privilege of the grounds, if he develops into a loafer or refuses to work, the industrial supervisor has instructions to take up his card and place him back on the ward, referring him to the doctor who has charge of his ward, and, should the doctor find on investigation that there is no justification for his refusing to work, he is refused a parole and placed on the ward and again becomes a member of the ABC class or detail group. We found that it is absolutely necessary for a patient who has a parole to be employed or assigned to some department where he will receive the necessary supervision for the wellbeing of this patient; otherwise you will find your parole patients developing into non-workers and loafers by seeing some others who have the privilege of the ground parole and are not employed. It is absolutely necessary, if one wishes to maintain discipline and secure the goodwill and cooperation of the patients, to see that all are treated alike and have some duties to which it is necessary for them to give their time and attention.

In developing our industrial organization we tried out many ideas and plans with varied successes, and finally adopted the following: We selected one male and one female employee, calling them industrial supervisors, who were especially fitted for this particular work. It is their duty to visit each industrial department every day, and more frequently if necessary, to ascertain if they have their full quota of patient employees. Each industrial department is furnished with a time book, and the foreman or head of this department is instructed to keep a list of the patients employed in his department, with a monthly record of the number of days each patient is employed and the character and amount of work done by each individual patient, which record is given to the superintendent at the end of each month. It is, therefore, very easy for the industrial supervisor to check up each department and ascertain the number of patients daily employed, which he is expected to do and furnish the superintendent with a correct copy, also a list of the number of patients employed on detail work under the supervision of a detail man. We have found it absolutely necessary to check up each department daily if we wish to increase the number of patients employed, as we do not always get the cooperation in the different departments that we would like to have.

When a new patient is received in the Jacksonville State Hospital, in due time he is presented to the medical staff for classification. After classification a careful inquiry is made as to his mental and physical fitness for employment, the kind of employment he would be most interested in or is best fitted for. His former occupation receives our careful consideration. To illustrate: if his occupation is given as a farmer, and other conditions suited, his name and a recommendation by his physician are given to the industrial supervisor, who assigns him to the farm department, where the farmer must give him supervision and instruction. If the patient has not progressed so far as to be entitled to a parole he may be assigned to a farm detail. Later on, if his improvement is such as to recommend it, he is again presented to the staff for parole of the grounds and assigned to the farm boss proper.

All of us, whether sane or insane, must have an incentive or an object to be attained, or we will not show the proper interest in our duties or the work assigned us, and we have found it to be advantageous in securing the cooperation of the patients to furnish all the workers, whether on parole or detail, as far as possible, a lunch at 10 a. m. which consists of bread, butterine, and coffee, varied with cake or pie occasionally. We believe the workers are entitled to and naturally require a greater amount of food than the non-workers. As far as we are able to do so, we have provided separate dining rooms for them where a larger, better, and more varied supply of food is furnished.

We have at the present time employed at the Jacksonville State Hospital every day except Sunday between one thousand and thirteen hundred patients. This does not include patients who are working on the wards. Very seldom we run below one thousand patients employed in the separate departments or on detail work.

The farmer has twenty-five patients assigned to him. He uses them in driving teams, keeping the barns clean, currying horses, and doing general farm work.

The dairyman has also twenty-five paroled patients assigned to him. They assist in milking, feeding the calves, currying the cattle, cleaning the barns, and in pasteurization and delivering the milk to the various kitchens. This farmer and dairyman have three paid employees also assisting them.

The gardener has assigned to him thirty patients, who, of course, are paroled patients. They assist him in sowing, planting, and cultivating the garden and in delivering the products of the garden to the various kitchens.

In the tailor shop in charge of one paid employee there are employed between thirty-five and fifty patients, consisting of parole and detail patients. In this department all the suits, over-

coats, caps, underwear, gloves, and mending, pressing, and cleaning are made and done. In connection with the tailor shop, under the supervision of the foreman, we have a shoe repair shop where all the shoes which are discarded or thrown out of the window are brought, and if it is possible to repair them it is done. The shoes that are not suitable for repair are torn down and the counters, soles, and other pieces are saved. Counters and soles are used in making canvas and carpet slippers. The other pieces, if suitable, are used for patches or building heels, etc. Suits which have been soiled and sent to the laundry are washed and sent to the tailor shop, where they are pressed, mended, and returned to the ward.

At the carpenter shop we have two paid employees (carpenters), who use six to ten patients doing repair work and manufacturing chairs, flyswatters, and various other articles.

In the mattress shop we have one paid employee who uses four patients. In this department all upholstering, renovating and making of mattresses is done.

In the bake shop we have one paid employee and ten patient assistants. All the pies, cakes, bread, etc., used in the institution are baked in this shop and delivered by the patients to the various kitchens in carts as needed. The patients who work in this department are all dressed in white.

In the laundry we have five paid employees, including the head laundryman, with sixty patient employees. The laundry is gathered up by patients after being washed and ironed and is delivered to the wards by patients. The clean clothing is placed in baskets and the ward marked on it and then hauled in carts by patients to the different wards. When a load is started to its destination the head of the sorting room calls up this ward and informs them that she is sending their laundry, which is left at the door. This is done to prevent them leaving the laundry outside indefinitely, which has happened, or being lost in some other department.

We manufacture a large amount of soft soap in the laundry, utilizing all the waste fats which accumulate in killing hogs and beeves; also if an animal dies, the fat is extracted and the other material used as fertilizer.

The butcher is instructed to cut out all the large bones, which are saved, together with those from the kitchens and dining rooms when we have roasts. These are used in making soups, and the bones are again saved and returned to the laundry, where the fats that are left in them are converted into soap and the lime deposits used as fertilizer.

From fifteen to twenty-five patients are employed in the boiler room shoveling coal and wheeling out ashes. These patients are under the direct supervision of a patient supervised by the engineer who is on duty.

In the weaving room we have one paid employee and from thirty to forty women patients. All the discarded clothing which is picked up by the patients, and cannot be used for blanket- or quilt-making, after being washed and taken to the weaving room, is torn into rags and woven into rugs. All ingrain or brussels rugs which are worn out and cannot be used by the shoe shop in making carpet slippers are cut up and woven into rugs.

The sewing room is in charge of one employee and sixty to eighty women patients, with eighteen motor-driven sewing machines. In this department we manufacture dresses, coats, petticoats, summer underwear, bonnets, gowns for both men and women, aprons, table cloths, sheets, towels, curtains, window shades, gloves, bath sandals, ticks for mattresses, and many other useful articles. The bath sandals are used in the hospital and hydropathic department. They are made from worn-out pieces of ticking. The other goods are made from new material, with the exception of the gloves and sandals, which are made from waste and discarded material from the sewing room.

We are occupying the chapel during week days for the fancywork class, in charge of one employee and consisting of two hundred to two hundred and twenty-five women patients. In this department patients are taught to do basket-weaving, and to make quilts, scarfs, and shawls, as well as to do various kinds of fancy work. Indian head and muslin are used instead of linen for fancywork for the wards; sewing thread is used instead of crochet thread for trimming, as it goes twice as far. Indian head and plain cotton muslin do not cost one-fourth as much as linen. These materials launder well and unless closely observed would be taken for linen.

The quilts are made from both cotton and worsted scraps. If possible, all calico, gingham, and muslin scraps, no matter how small, are made into quilts. The pieces of worsted left from the manufacture of suits and coats are also quilted double and make a very serviceable blanket. In some of the quilts padding is used from old worn-out pieces of dresses or other garments, which are mattressed together so as to make a smooth surface of two or three thicknesses, after the pieces have been thoroughly washed and cleaned. These are to be used also as blankets.

The scarfs for the head and shoulders are made

from the ravelings of both black and white cotton hose or pieces of worn-out knitted union suits, shirts, or drawers. Bandages for the entire institution are made in this department from old muslin sheets which have been washed and sterilized, torn into strips, and rolled into suitable sizes.

In the canning factory, where we employ during the summer and fall months a large number of patients, we can beans, tomatoes, corn, kraut, cucumber pickles, beet pickles, catsup, spinach, swiss chard, and chopped piccalilli, all of which is grown by the institution farmer.

The painting and decorating for this institution is in charge of one employee and fifteen patients. They do all the painting at the Jacksonville State Hospital, and are now doing work at the School for the Blind. The painter works two gangs, the one at the Jacksonville State Hospital being under the supervision of an attendant, which is necessary in order to have the patients receive the proper supervision. He need have no knowledge of the work, as the patients are quite efficient.

In the kitchens and dining rooms, and wherever it has been possible to utilize patient help, we have done so. The more we study the situation the more firmly we become convinced that we at the Jacksonville State Hospital have done very little; and we look forward to the time when these unfortunate, handicapped wards of the state will receive the consideration due them.

At the present time the great thinkers all over the world are studying and thinking and trying to devise means and methods whereby the poor, unfortunate, handicapped victims of this present war may be taught to become more or less self-supporting and consequently happier after the war.

It is just and proper that this should be so, but we who have charge of these poor unfortunate, mentally handicapped charges of our state hospitals, twenty thousand in number, must receive our first consideration. What are we doing to assist them in carrying their heavy burden—to make them more happy and contented and somewhat self-supporting? Someone is going to step into the breach and show us the way, and whoever that may be he will be heralded as the emancipator of the insane.

THE DEVELOPMENT OF PRISON INDUSTRIES*

The Function of the Penal Farm in Educating and Reforming Prisoners—Various Industries That May Be Carried On by Convict Labor—Road-Making, Foundry Work, Shoemaking, Printing, Knitting, Weaving, Etc.

By JOHN L. WHITMAN, Superintendent of Prisons for the State of Illinois, Springfield, Ill.

THERE are many things to consider and much that should be done by the Department of Public Welfare if the best interests of the state are conserved in the management of its penal institutions. The state is concerned as to whether or not inmates can be handled in such a way or given such treatment as, in the wording of the law, will "prevent them from returning to criminal courses, best secure their self-support, and accomplish their reformation." This is a problem that confronts the department at this time.

It is acknowledged that it will be necessary to make use of all the facilities and resources available to bring about a solution of the problem. It is important that an intelligent study be made and an understanding had of general conditions that prevail in the institutions because of construction, location, etc., but it is vastly more important that not only an intelligent, but a scientific study be made of the individual inmates who make up the population of it, and how best they can be handled either individually or collectively. They should be studied from the viewpoint of the criminologist, the alienist, and the physician, as well as by the official, all for the purpose and with the determination of preparing them physically, mentally, and morally for the proper sort of citizenship when they will no longer be a menace to society.

It must be remembered that practically all of them are sometime returned to society. If they have not been studied, understood, and properly appealed to while in the prison, they are returned no better than they were before, and possibly have been made worse or more desperate, and society suffers accordingly. In order to prevent this, the study of them should be extended so as to take into consideration their mental attitude as well.

In my opinion there is nothing that so effectually corrects, in the mind of the prisoner, a distorted viewpoint of life or of prison conditions as the right sort of employment. Work of the character that furnishes healthy occupation of mind and body is essential to inmates if the qualifications necessary to good citizenship are to be developed while they are in custody. This is somewhat due to the fact that many of them have never

*Paper read at the twenty-second annual Illinois Conference of Charities and Correction, Joliet, Ill., October 26, 1917.

acquired the habit of industry, and, consequently, have never been inspired by the wholesome thoughts entertained by those who through habits of industry have been successful, not only in the industrial field, but in the art of character-building, and are in reality teachers of the art in their home and in the community in which they live.

Those who have taken the pains to look back into the career of the average criminal know that his present status is largely due, first, to lack of proper training and environment in early youth, then later, to habits of idleness, which produce the rowdy. From rowdyism to hoodlumism is only a step, and then it is only a stride to criminality. The criminal goes to prison, not for life, as a rule, but, as the law intends, in order that he may be supplied with the knowledge and training that will make him a less dangerous member of society, and at the same time encourage him in the formation of habits of industry which lead to a contented mind and a correct mental attitude toward society.

Prison industries can and should be used as a means of assisting in the solution of the recognized problem of the reformation of convicts, as well as making them self-supporting and useful to the state while in prison. The Department of Public Welfare aims to and will develop prison industries with this thought in mind. The character of industries depends largely, if not wholly, upon the needs of the state. Practically all of the state institutions have more or less farm land connected with them, the work upon which is organized and developed with the idea in mind of giving employment to inmates as much as possible and of raising such produce as can be used by the institutions to the best advantage, making exchange between institutions so that the surplus of produce in one will supply the needs in another where there is an insufficiency, thus avoiding, if possible, the purchase by the state of supplies which their own land with the aid of inmates can produce. It is the purpose to promote, especially in the penal group of institutions, to a greater extent than has been done in the past, industries for the manufacture of such commodities as can be not only used in them, but furnished to meet the needs in the charity group and all of the others when consistent with economy and efficiency.

No one will question the propriety of listing farm work as one of the industrial features; in fact, often it proves to be one of the most profitable in a penal institution.

In connection with the penitentiary at Joliet there is a large farm, located about four miles from the present site of the prison, which not only furnishes opportunity for carrying on agricultural pursuits, in accordance with the plan as here outlined, but, inasmuch as a portion of it has been selected for the site of a new prison, affords the opportunity of following industrial and mechanical pursuits under the most advantageous circumstances. During the construction of the new prison and the development of approved methods of conducting a penal farm, this part of the present Joliet penitentiary might be looked upon and considered as a separate unit, yet under the same directorship.

In making the assignment of inmates to the farm for the purpose of perfecting a proper organization to perform the work, consideration should be given the character of the inmates and the possibility of their qualifying in such a way as to make it reasonably certain that the organization can be used as a means of and opportunity for training and preparing the individuals so that they ultimately will be fit subjects for parole and later become good citizens.

A penal farm, with its lack of bars and walls, affording the lesson of self-control that can be taught in their absence, and with land sufficient and an opportunity given to divide the inmates into those following agriculture, industrial, or mechanical pursuits, will make it possible to carry out the intention of the law, which says: "Prevent them from returning to criminal courses, thus secure their self-support and accomplish their reformation."

Another section of the same statute provides and gives opportunity, not only for those from the Joliet prison who may need the benefits of this gradual and perhaps slow process of training and preparation for parole and good citizenship, but also for those who give promise of profiting by it from the other penal institutions. The section referred to provides for the transfer of inmates between institutions whenever the Department of Public Welfare has reason to believe that the best interests of the inmates will be conserved and the intention of the law observed.

In this way the farm and construction work, while being a part of the penal system and in reality a part of one of the prisons, yet will be to all intents and purposes a separate unit performing the functions that the prisons are supposed to perform, but in a different way and more effectually—in fact, finishing the work of reformation that the prisons did not have the facilities to complete in this particular class of cases.

The penal farm, with a group of inmates earnestly working out their salvation as here outlined, supervised by competent officials in hearty accord with the system of transfers between institutions and then to the farm until an intelligent classifica-

tion is made, would be the proper organization from which to draw the man-power to do road work on the state's highways.

Surely the state of Illinois needs to have this kind of work done, and the department sees no reason why it cannot be safely and economically done by inmates. It may be said that in order to perform good road work economically more or less machinery and equipment are needed; if so, let the inmates behind the walls of the penitentiary build that machinery and equipment, as the statutes provide.

Two of the penal institutions are now furnishing from their quarries the stone that is used in road construction work. The stone available in these quarries is as yet unlimited. The capacity of the crushers can be increased as the demand for stone justifies. The Southern Illinois Penitentiary already has a great demand for limestone dust, which is used quite extensively by farmers in treating the land that has become sour.

In the construction work that is continually going on, the institutions to some extent at least require stone. Also the state might profit by having the stone used in the manufacture of concrete material and shipped to points where needed; for instance, plain fence, ornamental posts of any kind, tile, or culvert pipe. At least one of the institutions finds suitable raw material for this work on its own land, also material for the manufacture of brick for building and other purposes.

Foundries in each of the institutions supply at least their own needs and are looking for the needs in other parts of the state.

Shoes are manufactured in one of the institutions and are furnished to inmates of all others. This industry, if extended, would have to look to the market for an outlet for its production.

Printing and bookbinding is a live industry at the reformatory. It is our aim constantly to increase its capacity until it meets the needs of the state and reaches its maximum as an influence and aid to the educational feature of that institution.

Two of the institutions are now manufacturing a limited amount of furniture and reed or fiber work, chairs, etc., a class of work that interferes to the least extent with free labor; possibly these commodities, if not manufactured with prison labor, would not appear upon the open market to any great extent, inasmuch as their manufacture by free labor would make the cost so high that there would be no demand for them. The state is coming to use some of this kind of furniture because of its being made by inmates and possibly it will be used to a greater extent.

The knitting factory at the Southern Illinois penitentiary manufactures socks and stockings and supplies the needs of inmates in other institutions. This industry might well be extended, even though its products reach the outside market. No great harm would be felt or objections raised by anyone if all goods that our limited equipment could produce were placed upon the market. However, every effort is to be made by the department to find employment for all of the inmates and to send nothing to the open market. The various state institutions not included in the penal group present needs beyond their own capacity to supply. The penal group, with its vast amount of man-power that should be made as far as possible efficient and capable along mechanical lines, must be utilized by way of meeting those needs, instead of allowing that man-power in idleness to become rowdy and riotous.

Clothing of all kinds for inmates of state institutions should be manufactured by the state, each institution doing the part it is adapted to or has facilities for. The penal group with its surplus of labor should do the remainder. One of the group is already equipped and has been engaged in this kind of work with profit to the state and to its own advantage, in that employment was given to inmates that might otherwise have been idle.

But now we want to go a step farther and weave the cloth that the clothing is made of. This is what a good business concern would do if it was as large a consumer as the state is. It has labor that should be utilized and if not utilized is an expense to the state.

Blankets should also be made at the penal institutions. Thousands of them are used by the state in various ways and places, as also are all kinds of brushes, brooms, mops, fiber rugs; and we are not forgetting soap, which is used in large quantities.

Then, too, it can quickly be seen that the state uses many commodities manufactured out of sheet metal of various kinds, principally tin and galvanized iron. Sheet metal work makes a very good industry and could turn out not only cooking utensils, pails and buckets, fire extinguishers, cans, large or small, but automobile signs as well.

When serious thought is given to the possibility of promoting industries for state use in our penal institutions, there seems no limit to the extent we might go. We might even resort to coal-mining, inasmuch as one of our institutions is situated directly over two veins of coal. Then, why not engage in the repairing of apparatus, furniture etc.? Much of this in all public institutions is generally abandoned and replaced by new for the apparent reason that in the ordinary way the cost of repair would be prohibitive, but with the use of prison labor a big saving could be made, or the

necessity for the purchase of new avoided. And that leads me to the thought that there is great profit in the utilization of prison labor in conserving the value of waste material of all kinds in public institutions. However, I shall have to curb myself on this point, otherwise my enthusiasm in regard to it will give this paper too great a length.

Whatever is done by way of promoting industries in our state institutions, we should not fail to recognize the fact that our whole prison system (the industries being a part) should be like a great factory operated for two purposes: the first being to make men out of broken, twisted lives, and the other to manufacture commodities out of raw material for state use. Then there will be the possibility of perfecting the system so that the thought of providing compensation to relieve needy deserving families of prisoners, or the prisoners themselves when released, would not only be justified, but practical.

MARINE HOSPITAL SANATORIUM, FORT STANTON, NEW MEXICO

United States Public Health Service Is Developing an Effective Agency for the Cure of Consumption Among Merchant Marine and Fresh Water Sailors—A Hospital That Must Depend on Its Own Resources

By OUR SPECIAL CORRESPONDENT, Washington, D. C.

FORT STANTON is situated on the Rio Bonita, a mountain stream rising in the White Mountains, at an altitude of about 7,000 feet. The post was established in 1855 to control the Mescalero Apaches. The valley of the river at the site of the post is from one-half to three-quarters of a mile wide. Its banks ascend gradually until the plain of the valley is reached, which at the site of the old post is about 75 feet above the bed of the stream. The geological formation exhibits outcroppings of new red sandstone and magnesia limestone. Gold is found in limited quantity in the Jicarillo Mountains, northwest, distant about thirty miles from the post. Pines, cedars, and cottonwoods abound.

The marine hospital service, which since 1798 has been treating the American seaman for his various ills, acquired the deserted army post in 1899 and fitted it up as a sanatorium for its consumptives. The beneficiaries of the public health and marine hospital service are seamen from American merchant vessels, uninformed wanderers from ocean freighter, fishing smack, and river steamer—men who have never borne their country's arms, but who have served her well nevertheless.

Fort Stanton is isolated, and is thirty miles from a trunk line and eight from a cowtown terminus of a branch road running two trains per week. It is dependent on its own resources for its electric light, ice plant, laundry, abattoir, and water supply, and has its own post office and telegraph station, telephone system, and fire protection, its own architect, electricians, engineers, plumbers, gardener, and cowboys. The efficiency of this sanatorium is steadily growing, and the capacity can be increased indefinitely.

The water power available will, when utilized, save thousands of dollars' worth of coal that is now annually consumed for power purposes. The reservation's forty-five square miles of range are capable of supporting 2,000 head of cattle. The beef herd now consists of nearly that number, and furnishes the sanatorium with beef, while the dairy herd furnishes the milk. Poultry raising is another industry that has been developed, and it is expected that eventually enough poultry will be raised to furnish eggs and fowl for the institution. Hog raising has assisted in reducing expenditures for pork products. The cost of a daily ration per man is from 40 to 45 cents; and the consummation of the plans mentioned above will reduce it to a point unattainable by the ordinary institution.

The patients are given constant care, encouraged and amused, protected from their own irregularities, and guarded from the carelessness of others. They are made to live and sleep in the open.

Tents and tent-houses, each accommodating two, shelter the majority of patients. The men choose tent mates, and develop a home spirit in their canvas abodes. Here they find privacy, subject to no interruption so long as order and an open tent are maintained. They decorate their homes, inside and out, according to individual tastes. Here is an amateur photographer whose tent is a veritable studio; yonder one of more plebeian taste, with a carefully tended patch of lettuce and young onions beside his door. This man has planted a tree to windward and a few stalks of corn, "just to watch them grow;" that one breeds pigeons in a little cote elevated on a pole, and eyes with suspicion his seaman neighbor's cat. As with village boys, their amusements run in periods. When the irrigation ditches are first filled in the spring, water-wheels of jack-

knife construction appear and miniature mills of various kinds. Again, the fad will be the making of cactus canes, or dressing horns, or the snaring of mocking-birds; and when the fishing fever is on, the assistant surgeon in charge of ambulant sick call knows just how they feel, includes in his

Fig. 1. Marine Hospital Sanatorium, Fort Stanton. General view.

liberty list everyone with a pulse rate below 80, and goes along himself. The patients have a pool table outdoors and a billiard table in a room from which windows have been removed. They may play cards outdoors, croquet, and quoits. Carefully selected cases are allowed to play ball and to go camping in the mountains, ten to thirty miles away. Golf they do not understand, as is evidenced by the boast of one patient who returned from the links breathless, but triumphant, announcing that he had made the course in "thirty minutes." There is a library of 2,800 volumes, from which 5,760 numbers were drawn last year. The amusement hall, in which concerts and amateur theatricals are given for the patients once or twice a month, is open during the day for a reading room. It is well supplied with newspapers and periodicals, while five large double doors on each side, extending from floor to ceiling, throw the room well open to the air. About fifty patients whose disease is well under control are allowed to do light work a few hours daily, but they are given the usual bimonthly physical examination and a special weekly quiz. These men earn from $10 to $30 apiece monthly, some being on the regular pay roll as waiters, etc., some earning by private employment by officers, and some by such enterprises as shoemaking, barbering, dressing furs, and repairing clothes. A cured case who, on being discharged as a patient, desires to remain in New Mexico is given preference among applicants for employment, and of the sixty attendants many are recovered consumptives; some of these work for a few months, trying their strength and earning money to begin life anew, and some remain for years from love of the country.

The adventurous spirit may still find solace here. There is a cave on the reservation still unexplored in its entirety by civilized man, for after traveling in a half day's journey he remembers that it is a half day's journey back, and that he is already tired. There may be treasure there — traditions so affirm; there may be another opening— the Indians are said to have known it, but the discoverer of either is still unhailed. There is good quail and pigeon shooting on the reservation, and a day in the mountains is occasionally rewarded by a deer, wild turkey, bear, or wildcat. Few places east or west are more favored by birds of song.

Fig. 2. Marine Hospital Sanatorium, Fort Stanton. Pilots' and engineers' tents.

Patients in all stages of the disease are admitted to this sanatorium. Refined methods for early diagnosis employed in the thirty-five marine hospitals located on the various coasts and rivers of the United States have led to an improvement in the character of the cases sent out, but the sailor is careless of himself, and it is difficult to convince

him that an incipient tuberculosis which does not cause him pain—which may, indeed, be unaccompanied by cough or any other constant symptom—is a serious thing. He is unwilling to abandon his vocation for many months to get well of something which he is only half convinced he has. Too often he returns to sea, and reappears months or years afterward broken in health, a far advanced case of tuberculosis. Cases early diagnosed coming to the sanatorium usually get well, and return to active life, with pleasant memories of the days when they took the cure out west. The far advanced case has a long battle to fight, with many discouragements to meet, and the process of getting well is to him so serious that most pleasures are denied. There is more profit to the state in returning a quickly cured and sanatorium-trained case to active life than in prolonging in constant fight the life of an individual hopelessly crippled by disease, but the function of the sanatorium is fulfilled both in cures and partial cures, and in the protection which the public receives in thus isolating a large number of bacilli-bearing individuals.

The commanding officer is Surgeon F. C. Smith, U. S. P. H. S., and his assistants are Passed Assistant Surgeon F. H. McKeon, Assistant Surgeon John S. Ruoff, Acting Assistant Surgeons Frank O. Barrett, Harry P. Reid; James W. Rawls, chaplain; G. G. Frund, pharmacist; Harri D. Leech, acting dentist; C. R. Irby, all of the United States public health service.

Fig. 3. Marine Hospital Sanatorium, Fort Stanton. View on square.

Fig. 4. Marine Hospital Sanatorium, Fort Stanton. House tents.

Grumbling the Unforgivable Sin

On this text Miss Violetta Thurston, in her "Text-Book of War Nursing," preaches a concise sermon of rare wisdom. It is good, not merely for nurses at the front, but for nurses at home; not merely for nurses, but for all the rest of us. Here it is:

"And sisters should remember always that the nearer the front, the stricter the rules, and grumbling is the unforgivable sin. Avoid it like the plague. The smallest grouse must be carefully repressed, for it grows on one more rapidly than any other disease; it is, moreover, highly infectious to others. What if the coffee is cold and your bed damp? Get them rectified another time if possible, but never cherish a grievance. Remember how many people there are who would cheerfully give all they possess to be in your place. Remember how much you wanted to go to the front, how you felt you could endure any discomforts, any dangers, if only you could be accepted for the post of honor. Remember with what high ideals of service you started out. Perhaps you thought being 'at the front' would mean being up to the elbows in blood for nights and days, helping at operations and dressing wounds, bombs and shells dropping all round you, sleeping when you slept at all on straw on the ground. Some or all of these things may happen, and if they do, you will find them much easier to bear than the small grievances, the long days with nothing to do but stand by and be ready, as sometimes happens, or sleeping in a room or tent with several others who do not share your views on ventilation. A cheerful spirit is the greatest asset that a sister on active service can take with her."

The *Cleveland Plain Dealer* tells a yarn of a young man who had been reading medical literature and got to imagining all sorts of things were wrong with him. He went to a doctor who gave him some tablets, after telling him he had a bad case of "pernospera." The young man had to go to a public library before he could run down the word's definition. Finally he found it as follows: "Pernospera—A blight that attacks the bean." That cured him.

THE ELEMENTARY TERMS OF NUTRITION

The Meaning of Protein, Fat, Carbohydrates, and Calories—Their Application to Familiar Diet Preparations.

By JOHN PHILLIPS STREET, Chemist, Connecticut Agricultural Experiment Station, New Haven, Conn.

THE ignorance of many physicians—even hospital dietitians—concerning some of the most elementary principles of dietetics would be amusing were it not so appalling. A few years ago, when I published my first report on diabetic foods, I received numerous letters which illustrated this ignorance. For example, the head nurse in one of the largest and most important eastern hospitals wrote that she did not quite understand my tabulated analyses, and inquired whether she could not obtain the total carbohydrate content of the various foods by adding together the columns marked "nitrogen-free extract" and "starch." The fact that such a method would yield 150 percent of carbohydrates in rice and about 125 in wheat flour was no deterrent to this "dietitian." Of course, in most of our hospitals the nurses, and even the physicians, know that starch is a carbohydrate; most of them know that egg-white, milk casein, and wheat gluten are proteins; and probably all of them know that butter, lard, and oleomargarine are fats. It is to be feared, however, that even yet in hospitals the term "calorie" is more or less of a mystery; certainly it is little understood in lay circles.

The layman who pretends to any appreciable amount of education would be quite ashamed to admit his ignorance of the meaning of such terms as "pound," "quart," "gallon," or even "cord" (as applied to wood). In rather more intelligent circles the terms "ampere," "volt," or "kilowat" would have some definite meaning. Probably in any group of intelligent men today someone would be found who could discuss with authority the points of excellence of the various motors, of the different brands of gasoline or lubricating oils, or of the numerous makes of automobile tires. Others might have the most complete understanding of even very complicated machines, knowing the importance of each tiny lever, bolt, and screw. But when the greatest of all machines, the human body, is considered, the densest ignorance would be found to prevail, and the unfortunate one who dared to mention proteins, fats, or carbohydrates would be instantly hailed as a food-faddist, and were he so rash as even to whisper "calorie," at once would be set down as a pedant of the worst type.

Surely such a state of affairs is hard to understand. The physician, the nurse, the dietitian, and the chemist, as a rule, when considering diet abandon such abstractions as bread, potatoes, milk, butter, and beef steak, and think only in such concrete terms as protein, fat, carbohydrate, and calories, with perhaps occasional emphasis on such recondite phrases as vitamines, food accessories, fat-soluble A, or fat-soluble B. While it is granted that at the present time these last-named terms express a rather indefinite concept, for which with our present knowledge we cannot assign a more satisfactory terminology, there seems no valid excuse for even the layman's ignorance of the ABC of dietetics.

For several years Prof. Graham Lusk has argued that our food labels should bear a statement of the calories yielded by a definite quantity of the food in question, indicating at least the proportion of this calorific value yielded by the proteins of the food. Lusk's argument, I believe, will more and more prevail, and to me the time seems not far distant when all intelligent consumers of food will realize that their foods possess value only so far as they yield protein to repair or build tissue, or carbohydrates and fats to furnish energy or fuel to the body. Soon, too, they will appreciate that the calorie is simply a term expressing the fuel value of the various foods. While they may forget that lexicographically a calorie represents the amount of heat necessary to raise the temperature of 1 kilogram of water 1 degree Centigrade, or, what is the same thing, 1 pound of water 4 degrees Fahrenheit, they will gradually learn that the most important function of a food is measured by the calories it will yield when burned in the great human engine. They will realize that milk is valuable as a food, not because it is milk, and that wheat bread is nutritionally desirable, not because it is bread, but because these foods yield 314 and 1,174 calories per pound, respectively.

Quoting Graham Lusk, "A celebrated school mistress once asked that a book be written which would tell her what apple sauce was without introducing the terms protein, carbohydrate, and fat. Alas, that is impossible. It would be like teaching architecture without mentioning brick, granite, and marble."

Granting the necessity, therefore, of using these terms, the consumer of food should also realize that these unfamiliar words are not difficult of

comprehension, and are in reality expressions for groups of substances with which he is quite familiar.

Food is useful to the body only so far as it supplies either tissue-building material or fuel for the development of energy. The proteins, the fats, and the carbohydrates are food elements simply because they perform one or both of these functions.

PROTEIN

Protein is a complex substance, of which nitrogen is a characteristic ingredient, so that we commonly speak of protein foods as nitrogenous foods. Its main purpose in nutrition is to produce tissue and thus either promote growth in the young or maintain weight in the more mature. It is the essential constituent of all meats, fish, and eggs; it is an important ingredient of milk, and mixed with fat makes up most of the substance of cheese. The white of eggs, the curd of milk, lean meat, and the gluten of wheat are types of protein. Important sources of protein are lean meat, fish, eggs, milk, cheese, dried beans, and dried peas.

The source of the protein is of much importance. Thomas has shown that the relative nutritional value of proteins based on their origin is as follows:

Meat protein	100	Bean protein	56
Milk protein	97	Bread protein	40
Rice protein	88	Corn protein	30
Potato protein	80		

The proteins from animal products, such as meat and milk, are, therefore, more valuable than those from vegetables, and among the vegetables themselves great differences exist.

For this reason milk or meat, in moderate quantities, must make a part of the daily ration, especially that of children.

FATS

The term fat requires but little explanation. The familiar foods, butter, lard, olive oil, cottonseed oil, consist entirely or almost entirely of fat. The purpose of fat in the diet is to serve as fuel to yield energy in the form of heat or muscular power; part of it is also often stored in the body as body fat. Important sources of fat are butter, milk, cream, cheese, oleomargarine, lard, cottonseed oil, and other vegetable oils, many nuts, and certain fish, such as salmon.

Fats as a rule are a costly part of the ration, much more so than that other group of energy-producers, the carbohydrates.

CARBOHYDRATES

The carbohydrates are compounds consisting of carbon, hydrogen, and oxygen. The commonest forms are the starches and the sugars, which are pure carbohydrates. While starch and sugar are physiologically practically identical, chemically they are quite different, so that a general name is necessary to cover both these and allied products. While there are other carbohydrates, for general purposes it is quite safe for the consumer to think of the carbohydrates in his foods as being either starch or sugar.

The function of the carbohydrates is very similar to that of fat, namely, either they produce energy, that is, are fuel foods, or they are transformed into fat for storage in the body. Besides sugar and starch themselves the most important sources of carbohydrates are our staple starchy foods, such as rice, potatoes, bread, beans, macaroni, and corn. These all contain protein as well, and some fat, but their main constituent is starch, which when changed into sugar is just as much fuel for the body as gasoline is for the automobile.

To summarize what has already been said: generally speaking the food we eat serves two functions; the protein maintains and repairs the tissues of the body, the fats and the carbohydrates furnish fuel to the body engine that life may continue. When supplied in excess, the protein also serves as a fuel.

THE CALORIC VALUE OF FOOD

In the destruction of these food elements in the body, heat is generated, and a measure of the amount of heat thus supplied indicates the value of the food as a means of keeping the body warm, of maintaining the action of the heart, lungs, kidneys, and other organs, and of enabling the performance of muscular work. An elaborate machine, called the calorimeter, has been devised to measure the actual amount of heat evolved by the various foods. Many careful experiments with a wide range of foods have shown that an ounce of pure carbohydrate or pure protein will yield 113 heat units, and an ounce of pure fat 225 units, or, in other words, a given amount of fat has 2.25 times as much heat value as the same amount of either protein or carbohydrate.

This unit of heat measurement is the calorie, and may be defined as the amount of heat required to raise the temperature of 1 pound of water 4 degrees F.[1]

It has been found that 1 gram of either protein or carbohydrate yields 4.1 calories, while 1 gram of fat yields 9.3. For all general purposes these values may be simplified to 4 and 9, respectively, and with a knowledge of the percentage composition of any food the calculation of its fuel, or calorific, value is a simple matter.

For instance, milk contains 3.3 percent protein,

[1]Or the amount of heat necessary to raise the temperature of 1 kilogram of water 1 degree C.

4.0 percent fat, and 5.5 percent carbohydrates. One hundred grams would yield, therefore, 3.3×4+5.5×4+4.0×9=71 calories, and 114 grams (=¼ lb.) 81 calories. In the same way wheat bread, which contains 9.2 percent protein, 1.3 percent fat, and 53.1 percent carbohydrates, would yield in 100 grams 9.2×4+53.1×4+1.3×9=261 calories, or 298 calories per quarter pound.

It is well known that any ordinary machine requires more fuel when it is in action than when at rest, and the same is true of the human body, increased activity, muscular work, requiring more fuel; or, in other words, more food. It is apparent, therefore, that the number of calories necessary to be yielded by the daily ration will vary with the nature of one's physical activity. The age, sex, and weight of the individual also have an influence on this demand, but these need not be discussed at this time.

A very large part of our adult population sit at their desks all day, or watch machinery, and their physical exercise is limited to the walk from home to office or factory. In this group are included physicians, teachers, and other professional men, clerks, accountants, etc. These require a daily supply of 2,500 calories. Those who stand at their work, such as bakers, dentists, shop-keepers, car conductors, etc., require about 3,000. If the muscular work be constant, as with carpenters and painters, a supply of 3,300 calories is needed, while farmers require 3,500, stone masons 4,500, lumbermen 5,000 calories, and so on.

Table I summarizes these calorie requirements from the standpoint of age and of occupation.

TABLE I. CALORIES REQUIRED DAILY

Based on age		Based on occupation	
1 year	950	Clerk at desk	2,250
2 years	1,100	Professional man, machinery watcher	2,500
2– 4 years	1,300	Light muscular work	2,800
5– 6 years	1,400	Bakers, dentists, shop-keepers, conductors	3,000
7–10 years	1,500	Carpenters, painters	3,300
11–14 years	1,600	Farmers	3,500
15–16 years	2,100	Excavators	4,000
17–18 years	2,250	Stonemasons	4,500

It must be clearly understood, however, that a ration may contain the proper number of calories and yet be a very poor ration if the protein, fat, and carbohydrate are not supplied in proper relative amounts. For instance, 0.7 pound of butter or 1.2 pounds of American cheese, or 1.3 pounds of sugar, would each yield 2,500 calories, yet it is apparent that none of these foods used alone, even in these amounts, would constitute a proper ration.

Physiologists tell us that the normal man of sedentary habits, or performing light labor, should receive each day 2.6 ounces of protein, 1.8 ounces of fat, and from 14 to 18 ounces of carbohydrates, yielding 2,500 calories. In compounding rations it is quite necessary to keep these relations in mind.

A PROPERLY BALANCED DIET

The average American dietary contains an excess of protein; that is, we eat, and in the body destroy, more protein than the body needs for repairing its tissues. This excess protein has no greater fuel value than so much sugar and starch, and when we remember the difference in cost the great economic waste in this excess consumption of meat and other protein foods is apparent. A properly constituted ration should contain from one-eighth to one-sixth of its calories in protein.

A typical ration containing 1,000 calories is given by Lusk as follows:

	Ounces	Calories
Cooked Beans	7⅜	400
Pork	1	234
Bread	2½	180
Butter	½	103
Milk	5	100
Coffee	5	...
Total		1,017

In this ration the protein yields nearly one-sixth of the calories, and the balance is therefore correct. In normal times such a ration would supply one-third the daily need of a man at light work at a cost of 4.25 cents, including the cost of fuel. It illustrates how cheaply it is possible for one to supply his body with all of the needed nutriment when normal prices prevail.

Now, how shall this knowledge of calories be applied in the preparation of the daily meal? It would be most fortunate if tables showing the composition of our staple foods could be in every home. However, even were this the case, in all probability many would have great difficulty in making the proper calculations.

Gephart and Lusk have greatly simplified this problem. Their extensive study of the standard portions served in a series of chain restaurants in New York City gives us just the data we require. It is quite probable that these portions represent pretty closely the amounts served in the average homes, and therefore, will prove a useful guide in the making up of rations and in the substitution of cheaper for more expensive foods.

Table II is an abridgment of their tables, somewhat simplified and recalculated in common terms. The first column gives the food served, an asterisk (*) indicating that bread and butter and potatoes were served with it, and the dagger (†) that bread and butter were served; the second column gives the approximate weight of the portion in ounces; the third column, the calories yielded from the protein in the proportion; the

fourth column, the total calories yielded; and the last column, the number of these standard portions necessary to secure the 2,500 calories needed daily by the man of sedentary habits or indulging in only light work.

TABLE II. CALORIES YIELDED BY STANDARD PORTIONS OF FOOD

Food	Weight, ounces	Calories		Portions
		Protein	Total	
Apple, baked †	4	1.4	137.2	18
Apple, baked, and cream	8	5.8	393.7	6
Bacon, broiled *	6.5	70.2	760.8	3
Bacon and eggs *	8.5	148.1‡	818.1	3
Bananas, sliced	3.5	5.6	91.5	27
Beans, Boston baked †	9	102.1‡	509.4	5
Beef, corned beef hash, with poached egg †	6.25	157.3‡	680.0	4
Beef, corned beef hash, browned †	7	97.5‡	538.3	5
Beef, creamed, chipped †	10	160.1‡	536.3	5
Beef, roast, cold †	5.5	155.7‡	464.2	5
Beef roast, and mashed potatoes †	10.5	141.8‡	539.6	5
Bread and butter, ¾-in. slice, 1 teaspoon butter	2.75	28.0	202.0	12
Bread, hot corn	5.5	60.5	474.1	5
Cakes, wheat, and syrup	6.5	49.9	476.2	5
Cantaloupe	4.5	4.1	37.4	69
Chicken croquette and French fried potatoes	6.5	77.5‡	499.7	5
Chicken hash †	6.5	97.1‡	468.1	5
Cocoa	9	32.9	256.7	10
Codfish, creamed on toast†	9.5	155.6‡	567.8	5
Coffee, cup, cream and sugar	11.5	27.5	202.9	12
Corn, stewed	2.5	7.0	54.5	48
Corn flakes and milk	9	54.7‡	237.5	11
Corn starch, with cream	6	27.4	239.3	11
Crackers, graham	2	21.4	230.1	11
Crackers, soda and milk	10.5	71.6‡	397.4	6
Cream	8.5	35.5	515.9	5
Cream of wheat	7	32.9‡	135.2	19
Crullers	4	46.0	457.0	5
Custard, cup	7	53.4‡	234.1	11
Eclair, chocolate	2.5	19.2	193.4	13
Eggs, boiled (2)†	4.5	92.8‡	391.0	6
Eggs, creamed, on toast	19	146.6‡	663.9	4
Eggs, fried (2)†	6	105.8‡	527.8	5
Fish cakes and poached egg †	9	129.5‡	603.8	4
Frankfurters and potato salad †	10	114.0‡	619.8	4
Grape fruit	7	6.3	79.0	32
Ham, broiled *	9	158.0‡	936.7	3
Ham and eggs *	10	181.9‡	842.6	3
Ice cream, vanilla	5	21.9	233.7	11
Lamb chops (2)*	5.5	146.5‡	852.9	3
Liver and bacon *	9	177.5‡	797.2	3
Macaroni and cheese †	9	69.5‡	382.8	7
Maple flakes, with milk	9	64.0‡	283.4	9
Milk	16	79.0‡	312.8	8
Muffins, corn	3.5	35.9	352.3	7
Oatmeal and cream	10	47.1	396.3	6
Omelet, plain †	6	117.2‡	529.5	5
Oysters, raw	3.5	32.0‡	64.9	40
Pie, apple	5	20.9	343.1	7
Pie, mince	6	45.9	401.1	6
Potatoes, French fried	5	31.8	329.8	8
Pudding, bread custard	7	56.8‡	371.4	7
Pudding, rice, cold	8	43.6‡	275.4	9
Pudding, apple tapioca	8	29.4	225.5	11
Rhubarb, stewed	4	4.0	95.0	26
Rice, boiled	6	17.0	135.6	18
Salad, crab meat †	8.5	140.9‡	437.7	6
Salad, potato †	10	50.9	448.3	6
Sandwich, club	4.5	111.3‡	438.6	6
Sandwich, fried egg	5	59.8‡	276.0	9
Sandwich, ham	2	48.4‡	212.1	13
Sandwich, roast beef, hot	3.5	69.3‡	263.9	9
Sandwich, Swiss cheese	2	51.5‡	258.5	10
Sausage, country	3	57.6‡	243.9	10
Sausage and fried potatoes	6	71.5	521.7	5
Shredded wheat and cream	6	56.4	494.5	5
Shredded wheat and milk	10	81.2‡	404.5	6
Soup, bean, with croutons	10.5	42.5‡	180.8	14
Soup, split pea †	9	45.9‡	241.1	10
Soup, vegetable †	9.5	35.1	206.1	12
Steak, Hamburger *	10	147.9‡	723.8	3
Steak, small *	10	237.5‡	1032.8	2.5
Stew, beef †	16.5	148.4‡	641.4	4
Stew, lamb †	15	146.8‡	622.2	4
Toast, buttered	2.5	42.7	311.3	8
Toast, milk	8	59.4‡	333.5	8
Tomatoes, sliced	5	6.7‡	32.2	80
Tomatoes, with lettuce	4.5	8.2	52.1	50
Veal cutlet and tomato sauce †	13	177.8‡	897.8	3
Watermelon	38	27.6	244.3	10

*Potatoes and bread and butter served.
†Bread and butter served.
‡At least 15 per cent of the total calories derived from protein.

Two important points must be kept in mind in using this table. A considerable portion of the protein in the ration should come from animal sources, such as meat, milk, fish, or eggs, and about 15 percent of the total calories should be derived from the protein. The name of the dish will generally indicate whether animal protein is present, and in the protein calories column where at least 15 percent of the total calories is derived from protein italics are used.

To illustrate the practical use of the table: Portions of Boston baked beans, cold roast beef, codfish on toast, two fried eggs (all served with bread and butter), and cream, wheat cakes with syrup, and crullers, all yield about 500 calories per portion, and approximately five portions of each of these would be necessary to supply the daily requirement of 2,500 calories. These seven foods may be divided into two groups. The first four all secure at least 15 percent of their calories from protein, and in all but the baked beans this protein is chiefly from an animal source; the last three foods are all deficient in protein. It is obvious, therefore, that cold roast beef, creamed codfish, and fried eggs might be interchanged in the daily ration without disturbing the balance and at the same time supplying proper nutriment. In other words, five portions of any of these three foods served with bread and butter would provide adequate food for the daily need. Five portions of baked beans would not do this, for, while the nutriment would be sufficient, no animal protein would be supplied. Five portions of either cream, or wheat cakes, or crullers, would be unsatisfactory because in each case too little protein would be provided.

It is obvious, of course, that the calorific value of any food is dependent upon its composition. While thousands of food analyses have been published, usually these are not available to the general public. The excellent compilation of Atwater and Bryant is classic in respect to its completeness and accuracy, but the twenty years covered since its preparation have witnessed increased accuracy in methods of analysis, and the introduction of many new foods. Furthermore, improved processes of manufacture have not only yielded foods of better quality, but also, in some cases at least, foods quite different in composition from those sold under the same name twenty years ago.

In this series of papers I have tried to supply some of the lacunae shown by Atwater and Bryant's compilation, especially in relation to the different brands of manufactured foods. In this and succeeding papers I wish to direct attention more particularly to the calorific value of certain typical foods. The great European war, in which this country is assuming a more and more active part, will probably have an important influence on the

dietary habits of the people of the United States. Experience has shown that it is seldom desirable to make too radical changes in such habits. On the other hand, there are numerous ways in which our dietary regime may be modified without too severe a disturbance of our habits. To do this, however, intelligently and with a justified expectation of receiving the best results requires a clear understanding of the nutritional and calorific value of the foods in question.

This paper, introductory to the subject, has dealt with the elementary terms of nutrition, and applied them to some of the familiar dishes found in every home. Later papers will study in more detail the various groups of foods, especial attention being directed to the use of substitute foods.

THE KANSAS PUBLIC HEALTH CAR

Progressiveness of the State of Kansas in Public Health Matters—The Message of the Kansas Board of Health Carried Direct to the People—Interest and Enthusiasm Aroused Among the Public

By EDITH D. HERTZLER, R. N., Halstead, Kan.

NOT alone for its campaign that led to the abolition of the public drinking cup or its slogan "swat the fly" is Kansas known in public health matters. The Kansas Public Health Car, although started on its journey only the second of January, is attracting wide-spread attention.

Kansas also has a Public Health Nursing Association and a greater demand for public health nurses than can be met, and it was in response to this need that the Kansas Public Health Car came into existence. The state board of health realized that only by going direct to the people with its message could the individual and community problems be solved. But no funds were available for the purchase of a car for this purpose. Accordingly, application was made to the Pullman Company for the loan of a car that might be fitted up with an exhibit and sent out under the management of public health educators. The Pullman Company not only generously donated a car outright, but also made such alterations and repairs as were necessary to adapt it to the purpose, the total expense being about $1,000. The various railway companies in the state very willingly consented to transporting the car free of charge. Between January 6 and May 28, sixty-nine cities and towns were visited. A stop is made at each town with a population of 200 and above. A stay of one to four days, depending on the size of the place, is made at each stop.

Fig. 1. "Warren," the Kansas Public Health Car. The car is named Warren as a memorial to the son of Dr. S. J. Crumbine, secretary of the State Board of Health, who died in China, February, 1916.

The car contains exhibits representing the various phases of the state board of health work, special emphasis being placed on the child-welfare and tuberculosis exhibits. Two public health nurses and an assistant accompany the car and lecture on the various exhibits.

"But does the Public Health Car really educate—does it help solve the individual problems?" I have been asked again and again, my interlocutors being, it is needless to state, individuals who have not had—or have not made—the opportunity to visit the car. To gain first-hand information, I accepted the invitation of the public health nurses in charge of the car, to spend a day with them. The car at this time was touring the western part of the state over the Union Pacific lines. I arrived in the worst wind and dust storm that had visited the country in years. Despite the unfavorable day, a long line of motor cars, drawn up on either side of the car, attested to the prosperity of the country as well as the interest in the exhibit.

I joined a prosperous-looking farmer and his wife who had just parked their big touring car, and to get their viewpoint I asked:

"What is the purpose of this exhibit?"

"O, some new-fangled way the Board of Health has hit upon to spend our tax money," he replied. The wife smiled and added:

"Just because it is not dispensing advice on farm matters exclusively, my husband thinks it can't be any good; but I tell him just wait until he's been inside. I was here this morning," and her tone left no doubt as to whether or not she considered it "any good."

The large crowd inside almost blocked the way, but the door opened far enough to permit us to

Fig. 2. Interior of Public Health Car. On one side is shown a section of the tuberculosis and child welfare exhibit. In the foreground is pictured the feeding table advocated for the use of children as soon as old enough to take to the table. It is especially desirable, as the child sees only such articles of food as are intended for its own use; the temptation to give it "just a taste," experienced by so many mothers, is not present; neither does the little one cry for food unsuited to its age. A convenient play-pen is shown near by, on the floor of which is a washable pad, which serves the purpose of a "shock absorber," as it were, not only preventing bumps and bruises, but also protecting the little one from the cold floor. In the background of this picture is shown the miniature house with the sleeping porch built about a window; also, on the form near the door, the suit worn by the children in the Chicago open-air schools. On the other side of the aisle is seen the chart on communicable diseases, a model school desk, and in the background an invalid chair on wheels, the frame of which is adjustable, thus permitting the patient to use his favorite chair.

enter. The lecture was just beginning; the subject was tuberculosis. On the wall was a map of the state, divided into counties. Certain parts of this map were thickly studded with black-headed tacks; each tack, the nurse explained, represented a death from tuberculosis, an average of three a day in the state! The nurse's talk on the cause and treatment of tuberculosis was brief, but comprehensive, omitting none of the essentials. The various methods of taking the fresh-air treatment were demonstrated: the suit worn by children in the Chicago open-air schools for tuberculous children was on display; a sleeping porch built about a window of a miniature house demonstrated that a sleeping porch is not a luxury, but within the reach of all; and a diminutive tent-house with its cot was explained minutely.

A lady near me remarked to another: "A friend of ours saw this exhibit in his home town about a month ago; he had been coughing several weeks, but had not seen a doctor. After he heard this talk he went to a doctor and found he had consumption. He made one of them tent-houses and is improving already." I looked at my farmer friend, who had also overheard the remark. "Oh, I guess it does some good all right," he replied to my glance.

The next subject to consider was child welfare and hygiene. A poster on the wall, picturing the size of a baby's stomach at 1 month, 6 months, and 1 year, caught the farmer's eye.

"Is that as big as a baby's stomach is?" he gasped. Turning to his wife, he exclaimed, "By George, we certainly been a-stuffin' our kid." The last vestige of skepticism vanished from his face, and he gave undivided attention to the talk, often asking questions and prompting his wife to make further inquiries. The interest of the average American parent in all that pertains to the welfare of their offspring was well illustrated by this change of attitude. Unquestionably their "individual problems" were being solved! Then came the lecture on the value and duties of the school nurse, communicable diseases, water contamination, food adulterations, etc., the now thoroughly aroused farmer giving close heed to each talk and asking questions. As the end of the exhibit was reached he turned to me (I had managed to keep

close by, deeply interested in his changed attitude): "Wonderful, isn't it? I can't carry it all away in my head, but I certainly have learned a lot and am mighty glad I came." And we shook hands. There was an "I-told-you-so" look in the eyes of the smiling wife, but I surmise it did not find expression in words.

All day they came and went. It was a fascinating occupation, that of studying group after group, to see the change in those who had come with no real interest and little knowledge of the purpose of the exhibit, to see the look of indifference give place to quick interest, "and those who came to scoff remained—to learn." Equally interesting and enlightening were the comments heard here and there, "I wish I could have had this opportunity when my children were growing up," was the remark of many mothers. "I wonder if that is what the doctor meant when he told me to get a tent-house," one man said, looking at the small model. "I supposed it was something I couldn't afford, but I could make one of them myself."

Six o'clock was the hour for closing the car, yet it was long past that hour when the last visitor reluctantly departed. The weary, but enthusiastic nurses dropped into a seat in their own little compartment in the car.

After dinner we returned to the car to "talk shop." The nurses were enthusiastic and hopeful for results. And, indeed, the hope was well founded.

As we made a tour of the various exhibits of the now deserted car, the nurses related interesting incidents connected with the work. Apropos of the numerous dolls used in the tuberculosis and child welfare departments, the following occurred: A shabbily clad little girl entered the car one evening just as it was being closed. Timidly approaching one of the nurses, she asked, "What you a-going to do with your dolls when you're through with 'em?" eyeing the "fresh-air-smile" dolly wistfully!

At one small village a farmer came to the car and asked, "Have you got anything here for rheumatism?" It was explained that they had nothing to sell and did not prescribe. "Is rheumatism your special problem?" was asked. He went on to relate how he suffered from the trouble "off and on" every winter; that he had four brothers and one sister similarly afflicted; the only member of the family not a sufferer from this condition was a younger sister. Questioned about the condition of his teeth, he admitted he had a "lot of decayed ones." Did he have any trouble with his throat? Yes, he had frequent attacks of what "they call tonsilitis." He was advised to have his teeth put in good condition and to consult a specialist about his throat trouble; the relation existing between tonsilitis and rheumatism was explained. His face lighted up.

"Well, now, since you mention it, that sister who has never had rheumatism had her tonsils took out several years ago. I'm a-goin' right home and write all the folks about it."

Yes, the Kansas Public Health Car helps solve individual problems!

COLOR AS A THERAPEUTIC AGENT

Spring Colors and Open-Air Effects Employed in Decorating a Ward for Shell-Shock Patients

An interesting experiment in the judicious use of colors in the surroundings of neurotic patients has been carried out in a ward of the McCaul Hospital for Officers in London. This ward for officers suffering from shell shock has been decorated by Mr. Howard Kemp Prosser, whose theory is that the feeling of being shut in adds to the sufferer's depression and thus retards recovery. The colors that he has employed, therefore, are intended to give the effect of sunny open spaces in early spring—the time of hope and cheer. The ceiling is painted a bluish color, the tint, chosen to represent the blue of the sky, being known as "firmament blue." The walls, intended to represent the tint of sunlit foliage in spring, are painted a greenish yellow, called "sunshine primrose." The furniture is painted a similar color, so as to melt into the color of the walls. The woodwork and the floors are of a more decided primrose green. The window curtains are double, the outer set being pale yellow and the inner pale mauve. The fireplace, hearth, fender, and also the diet trays are of dull silver color. The china is a primrose color. There is no pattern anywhere in the room except for a simple design on the upper edge of the bedspreads and a little spring landscape hung over the mantlepiece. No browns or reds—no colors of death and decay—enter into the decorations. This color scheme is no doubt difficult to render into words with any degree of precision, but we have it on the authority of the *Lancet* and the *British Journal of Nursing* that the general effect is cheerful and most charming—probably well adapted to give relief to the minds of sufferers from depression.

Convict Offers to Make Knitting Needles for Red Cross

Convicts in the Eastern State Penitentiary at Philadelphia want to work for the American Red Cross, according to this letter, from Inmate B1381, received at Washington:

"Under separate cover I am forwarding you some samples of knitting needles which I am making of first-class, kiln-dried wood.

"I am a life prisoner in the Eastern State Penitentiary, and have made a machine by which I can turn out these needles, and any other style or thickness you may require, in considerable quantities. All the finishing is done by hand, and the large number of prisoners here, in total idleness, as all efforts of the prison administration to provide them with work have been in vain, have offered to assist me in the polishing and waxing of them, so there is practically no limit to the number of needles I can turn out."—Red Cross Bulletin.

PENNSYLVANIA AN EXAMPLE OF THE ADVANTAGES OF STATE-WIDE CONTROL OF TUBERCULOSIS

Cooperation Between Dispensaries and Sanatoriums—Operation of the System—Reduction of Tuberculosis Death Rate in Pennsylvania

By KARL SCHAEFFLE, M. D., Medical Inspector of Dispensaries, State Department of Health, Harrisburg, Pa.

WHILE the beginners in public health work are engaged in a search for the most effective and economical methods of administration, and while the recommendations of tuberculosis workers embrace all forms of organization, from the community unit to federal supervision, it might be of value to consider the principles involved in the solution of the tuberculosis problem by the study of a system which has been in operation for a sufficient time to show results. Any scheme for the control of such a chronic and widely distributed disease, to be successful, must combine all of the features of intensive investigation with those of comprehensive execution. Within the limits of a state, naturally, state-wide organization affords the best opportunity for the coordination of such measures. This is beginning to be recognized even in those commonwealths which have depended upon the inadequate county unit. It is also generally agreed that, as soon as possible, such endeavor should be made official and continuous by placing the power for its operation in the hands of the duly constituted health authorities.

This was done in Pennsylvania on May 14, 1907, when the division for the control of tuberculosis was created by act of assembly as an organic part of the state department of health, upon the recommendation of the commissioner, Dr. Samuel G. Dixon, who had shown through his bureau of vital statistics that the greatest cause of death within the state—the cause, in fact, of one-tenth of all of the deaths—was tuberculosis. The organization of the division began within six weeks after the passage of the act.

Pennsylvania presents many difficult problems to the sanitarian because of its size and topography and the diversity of its industries. Its mines, oil wells, railroads, mills, factories, and farms have made it for many years the greatest industrial state in the Union, and have attracted immigrants from all of the countries of Europe as well as large numbers of southern negroes. When, in addition to these factors which influence the habits of thought and of life of a people, it is remembered that the indigent frequently change their habitations and that the city consumptive usually tries to move to the country, the use of the term "control" must necessarily imply persistent and uniform effort by an all-embracing and closely knit organization under an executive who is fully alive to his responsibility.

Let us, therefore, consider, first, the structure of this body, then its manner of operation, and, finally, the results.

The department's division for the control of tuberculosis consists of three state sanatoriums and 116 dispensaries. The sanatoriums are situated in the mountains, but near the large centers of population, all three being on or near the horizontal line across the state which marks the central line of population, while the two in the east are on opposite sides of and about equidistant from the central point of population. Together, they have a capacity of 2,300 beds. The 116 dispensaries are distributed in such a way that every important town and railroad center has a dispensary; every county has at least one, while the more thickly congested counties have as many as six. Thus there is no spot within the state which is not within reach of some antituberculosis unit. These units vary in size according to the local requirements, from the dispensary located in a physician's office in a rural community to the largest tuberculosis sanatorium in the world at Mont Alto, where there are 1,135 patients. There are 210 physicians and 130 nurses employed in the dispensaries and 25 physicians and 100 nurses in the sanatoriums.

Each sanatorium is in charge of a medical director, who is held fully responsible by the commissioner for every detail of its management. This includes the character of the professional work of the medical and nursing staffs, the maintenance of discipline throughout the institution, supervision of all sanitary conditions (such as the preparation and serving of food, disposal of wastes, fly prevention, sterilization of infected material, fumigation and cleaning of buildings), also supervision of the farm and care of grounds, the requisition of supplies from the department's purchasing division, and the examination and safeguarding of the supplies when received. Above all his other duties, the director makes a sustained effort to instruct, encourage, and entertain his patients.

Dr. Dixon exercised great care in the choice of sites for the sanatoriums. Each has remarkable natural advantages and, at the same time, excellent railroad facilities. Each has a pure and

abundant water supply and an adequate sewage disposal plant. These were provided according to the recommendations of the department's engineering division. The elevation of the three sanatoriums ranges from 540 feet at Hamburg to 1,650 feet at Mont Alto and 2,530 feet at Cresson. Patients with heart complications are sent to Hamburg. Each sanatorium receives cases of pulmonary tuberculosis in all its stages, but separate provision is made for the earlier cases and the far advanced by having the latter occupy buildings which have large solariums adjacent to their wards and numerous rooms for individual care, while the more favorable cases are assigned to cottages. These comprise camps for each sex. Children are housed in especially constructed buildings in which they are divided into groups of large and small girls and large and small boys. The interiors are so arranged that it is impossible for any child to escape the observance of the

Fig. 1. Not an aeroplane picture, but a photograph of a model of Pennsylvania State Tuberculosis Sanatorium, No. 1, at Mont Alto, which helped to win the world's prize for exhibits of health departments at the Panama-Pacific International Exposition, at San Francisco, 1915.

nurse on duty, whose post commands a full view of the bathrooms as well as of the wards. The education of the children is provided for by fresh-air schools erected on the sanatorium premises.

The cottages are built from a model designed by Dr. Dixon, which provides for a maximum of sunlight and of circulation of fresh air. They are square, with a room at each corner, and a central space in which there is a radiator connected with the heating plant, where patients may dress and undress in winter. Each room has two large open spaces in its outer walls which, in time of storm, are protected by sliding wooden shutters, hinged at the top so that they may be inclined outward to any angle. Each cottage is raised about 4 feet above the ground and is set with its corners pointing to the four cardinal points of the compass, so that all rooms receive an equal amount of sunshine during the day and none is in the shadow of adjacent cottages. They are arranged in diagonal rows instead of at right angles, each surrounded by space equal to the size of a cottage. This affords the greatest amount of air circulation. A ventilator at the top of each cottage provides for free circulation within. There are no porches to keep the sun from entering the rooms. The cottages and many of the buildings are protected against fire by asbestos shingling. Patients "take the cure" at stated periods of the day in pavilions designed for the purpose. There are bath houses in each camp, in charge of attendants.

The dispensaries are adapted to the needs of their communities. Thus, in the cities entire houses are rented and opened daily for the diagnosis and treatment of tuberculosis, while in the towns rooms are used two or three times a week and in the rural districts the dispensaries are located in the offices of physicians where the work is done by appointment. The larger dispensaries have staffs which consist of a physician in charge, a first assistant and second assistants who are general diagnosticians, a laryngologist and a pediatrist, also a sufficient number of nurses to cover the field of the dispensary's operations. In the thinly populated sections one nurse may serve two or three dispensaries. The average number of patients assigned to each nurse is 70. The boundaries between the different dispensary districts are clearly defined. This prevents overlapping and instantly places the responsibility where it should rest when cases are reported which require care. (Compulsory notification of tuberculosis is required by law in Pennsylvania.) The physical condition of each dispensary is made an example to the patients who attend it, in cleanliness, order, simplicity, and economy. In addition to the chairs, examining couches, desks, filing cabinets, and screens, the state provides standard scales and blood-pressure instruments for all. A uniform style of department forms is used throughout.

The commissioner of health keeps in close touch with each sanatorium and dispensary through frequent visits of inspection to the former and through the regular reports of the two physicians and two nurses, whose duty it is to inspect the dispensaries. Such inspections are made without notice to those in charge. Thus all of these units are standardized.

The functions of each antituberculosis unit, whether sanatorium or dispensary, embraces the diagnosis and treatment of the disease and the education of the patient in the principles of correct living; also the furnishing of information to the community and to neighboring physicians and social agencies in regard to the disease and the means at hand for its prevention. The dispensaries act as "feeders" to the sanatoriums (no

patient can be admitted to a state sanatorium unless he has first been examined in the dispensary and his home visited by the dispensary nurse); they are also centers for the supervision of home treatment, the maintenance of the "follow-up" work and the collection of statistics.

The best way to study the operation of this system is to see what becomes of a patient who enters one of the dispensaries. He is cheerfully welcomed into the waiting room, where he is made comfortable and is then asked to sign a statement that he is unable to pay for treatment; his history is obtained with especial inquiry into his occupation, family income, number of dependents, the amount of rent, insurance and sick benefits, the previous medical history and that of the present illness; his weight, height, and temperature, pulse, respiration, and blood pressure are recorded, and he is given a thorough physical examination, which includes an examination of the larynx. All

Fig. 2. The Dixon cottage.

findings are recorded upon special charts. The patient is instructed in the use of sputum cups and paper napkins, and is given a sterile receptacle for the collection of a specimen of sputum to be sent to the state laboratory. If the diagnosis is positive the patient is at once informed of his condition and of the measures necessary for his improvement or recovery and the avoidance of transmitting his infection to others. His name is officially enrolled upon the dispensary list, and within forty-eight hours a department nurse visits his home. Depending upon his location, this may involve a journey into the most inaccessible mountain regions or into the city slums. The nurse, who combines the professional ability of a registered graduate with the special consciousness of the modern social worker, makes a complete sanitary and social survey, verifies the claim of indigency, and adjusts the family as gently as possible to their new responsibility. She arranges for the patient to sleep alone, with the windows wide open, the room bare of hangings and of floor covering, and for the removal of all articles which cannot be cleaned by means of a damp cloth. She sees that all rubbish is removed from the premises, that the sink and sewer are clear and provided with disinfectant, that garbage is covered and removed promptly, and that the windows are screened by netting. She instructs the family in the care of the patient's utensils, in the importance of regular bathing, dental care, the selection and preparation of food and the adoption of some means of outdoor sleeping. The original condition found and the improvements instituted are noted upon the nurse's report, with additional comment upon the particular social and economic problems of the family under consideration and of their degree of cooperation. Subsequent visits are made unannounced at intervals not greater than two weeks, and, in some instances, daily. The dispensary physicians evince much interest in the reports of the nurses and, by frequent conferences with them, are enabled to ascertain the underlying causes of the disease in the community and the reasons for success or failure in individual cases.

Every patient is urged to go to a state sanatorium. If he decides to do this, an application is filed for him, which includes a summary of his history, a copy of the chart of his physical examination, and a copy of the nurse's report. The name and address of a responsible relative or friend must be furnished, and the patient must be vaccinated within five years prior to his admission. These applications are forwarded from all of the dispensaries to the Harrisburg office, where they are kept in the order of their arrival and, together with a card index, constitute the waiting list. Each sanatorium director forwards, daily, a census of his institution which indicates where vacancies occur in his institution. These vacancies are filled from the Harrisburg office as promptly as possible by means of notices sent to the dispensaries and patients when their places upon the waiting list are reached. In the case of children, department tags are sent to be affixed to the clothing in a conspicuous place. A nurse from the local dispensary is detailed to see that the patients depart in good condition upon the proper train. If a change of cars is unavoidable, nurses from the dispensary nearest to the junction are notified to superintend the transfer. The patients are met at the sanatoriums by automobile trucks and are conveyed to the institution in charge of a member of the nursing or medical staff. Here they are admitted to special wards, where they are put to bed and kept under observation for one week, after which, according to the results of

their examinations and the character of their clinical records, they are transferred either to the hospital or to the cottages. The department requires each sanatorium patient to remain at the institution for at least four months, and encourages him to remain until "apparent cure" is accomplished. Those who leave in less than four months are discharged as "against advice" and render themselves ineligible for further treatment in any of the sanatoriums or dispensaries, unless they write a personal letter to the commissioner, expressing their regret, explaining their reasons for failure to comply with regulations and giving assurance that, if allowed to be readmitted, they will remain until granted a regular discharge.

The following is an outline of the daily routine at the sanatoriums:

6:30 a. m.—Rising hour—Bell 6:30 a. m.
7:15 a. m. Breakfast—Bell 7:00 a. m., Bell 7:15 a. m.
7:30 to 9:30 a. m.—Temperatures and cleaning quarters.
9:30 a. m.—Lunch—Bell 9:30 a. m.
10:00 to 11:30 a. m.—Rest in pavilions—Bell 10:00 a. m., Bell 11:30 a. m.
12:00 noon—Dinner—Bell 11:45 a. m., Bell 12:00 m.
1:00 to 2:30 p. m.—Rest in reclining positions on bed.
2:30 p. m.—Lunch—Bell 2:30 p. m.
3:00 to 4:30 p. m.—Rest in pavilions—Bell 3.00 p. m., Bell 4:30 p. m.
5:00 p. m.—Supper—Bell 4.45 p. m., Bell 5:00 p. m.
5:30 p. m.—Distribution of mail.
5:45 p. m.—Temperatures.
7:30 p. m.—Lunch—Bell 7:30 p. m.
8:30 p. m.—Retiring hour—Bell 8:30 p. m.
9:00 p. m.—Lights out—Bell 9:00 p. m.

In addition to this program the patients are allowed to engage in certain activities, under proper supervision, which aid their return to health by stimulating their mental and spiritual growth. They publish a monthly magazine, entitled *Spunk*, which contains original essays, stories, poems, and personals, written by the patients of the three sanatoriums, with occasional contributions from members of the department. They have orchestras composed of patients whose cases are "apparently arrested." A motion picture apparatus at each sanatorium, with a constant change of films, provides evening entertainment once a week. Dramatic and vaudeville performances are given at Christmas and upon other special occasions. Religious services are regularly conducted in chapels, which are open to all denominations. After four months of the sanatorium routine, if the patients are sufficiently improved, they are allowed to engage in light occupations, such as the care of poultry (there are several thousand fowls), flower and vegetable gardening, carpentry, and, finally, to serve as orderlies or ward-maids. All such work is carefully graduated by the medical directors and paid for by the department. Thus they are prepared to return to the occupations at home by which they supported themselves.

When a patient leaves the sanatorium he is referred to the dispensary from which he gained admission, or to the local dispensary in case his family has moved. He is then readmitted to the dispensary roll and is instructed to continue his attendance while becoming adjusted to the ordinary conditions of life. Many dispensaries have night clinics so that patients may remain under observation after they have resumed their work. During this time the nurse continues her visits to the home and encourages the patient and his family to continue as nearly as possible the sanatorium regime. Prompt notification of the dispensaries, by the sanatoriums, of the discharge of patients insures the tracing of many who might not return. The dispensaries notify the Harrisburg office when patients remove from their localities so that they may be referred to other dispensaries if they move within the state, or to the proper health authorities if they cross its borders.

If the patient is unable to avail himself of sanatorium treatment he is instructed to report regularly to the dispensary for observation, individual advice or class instruction, the issue of supplies, including milk and oil as supplemental food when required, and medication if necessary. He must also allow the constant supervision of his home by the department nurse until the activity of his infection is arrested. Every other member of his family is brought to the dispensary for diagnosis. The children are examined with especial care and, even if well, are always the subject of inquiry. Mothers are instructed in infant welfare. An effort is also made to determine whether tuberculosis is present among others with whom the patient has come in contact. This naturally leads to an investigation of local industrial conditions. The thousands of employers throughout the state have been asked to send their people who had symptoms or signs of tuberculosis, to the dispensaries. Many are doing so and have expressed their interest in the movement by improving conditions in their plants. The nurses are frequently

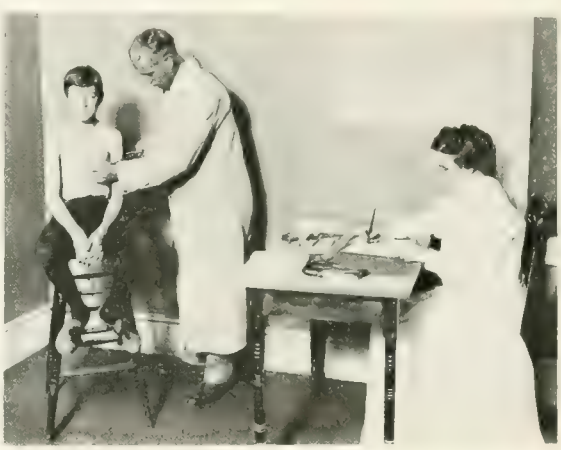


Fig. 3. Physical examination of a patient in a Pennsylvania state tuberculosis dispensary.

successful in arranging for changes to more favorable occupations for their patients and in obtaining work for those who are unemployed, or members of their families.

An agent which has proved highly efficient, in properly selected cases, in raising the resistance of the individual to the infection and thereby hastening its arrest, is the extract or the emulsion of the tubercle bacillus. Its use may commence at either sanatorium or dispensary, and if the patient passes from one to the other, a record of this treatment is sent with him. The watery extract is made from Dr. Dixon's formula announced shortly after his description of the attenuated forms of the tubercle bacilli.[1]

After the final discharge from either sanatorium or dispensary, the patients are "followed up" at intervals of six months, for a period of two years. The "follow-up" is conducted through personal interviews arranged by the nurses with the patients at their homes. The patient's physical condition and financial status is carefully investigated and recorded upon special forms, copies of of which are sent to the Harrisburg office. If there is any indication of the necessity for further treatment, the patient is urged to return to the dispensary.

SCHEME OF TABULATION OF THE "FOLLOW-UP"

Admission classification.	Discharge classification.	"Follow-up" classification.
Incipient.	Cured.	Improved.
Moderately advanced.	Apparently cured.	Stationary.
Far advanced.	Arrested.	Progressive.
	Apparently arrested.	Dead of tuberculosis.
	Improved.	Dead of other causes.
	Unimproved.	No data.
	Progressive.	

From a study of such tabulations since they were started in 1912, it is seen that of the thousands of former patients of the sanatoriums and dispensaries the majority of those who remained under treatment for a sufficient time to receive a favorable discharge showed, upon investigation, highly satisfactory results in their state of health and economic progress.

From the inauguration of Pennsylvania's official campaign against tuberculosis on May 14, 1907, the death rate from the disease has been reduced from 129.6 per hundred thousand to 104.7. There have been 97,655 admissions to the dispensaries, 22,348 of which were transferred to the sanatoriums. Of these patients, 7,802 were discharged with the disease "arrested" or "cured." The nurses made 1,125,736 visits to patients' homes. After careful investigation, 8,056,862 quarts of milk were issued as supplemental food.

In addition to the intimate relations between all parts of the division for the control of tuberculosis, the division itself maintains close contact with every other division of the department. Thus improper housing conditions are reported to the housing bureau by the department nurses while on their rounds, whether such conditions are found in the homes of their patients or elsewhere, and infringements of the law regarding the use of public drinking vessels and common towels and the health of employees of public eating places are referred to the division of public service. Assistance is rendered the medical division in the control of acute contagious diseases. In addition to service at epidemics, every physician and nurse is ready to respond to any call for help in public disaster, such as floods, fires, and explosions.

At the present time every one of the five thousand members of the department expects to do his or her part in case of invasion or internal disturbance due to our state of war. A large part of this force may be assembled at any point in the state upon short notice. By training and experience the members of this organization are also qualified for the more protracted service of social rehabilitation which will be required as soon as our people suffer loss. Further, we are ready to respond to the cry from overseas to assist the soldiers of France in their struggle with the silent foe, tuberculosis, and to organize for the protection of the civil population against this and other scourges or to take our turn at the military hospitals or in the field.

[1]Medical News, January 17, 1891.

Transforming Your Automobile Into an Ambulance

A handy device for converting an ordinary passenger automobile into a comfortable ambulance to transport the sick or the wounded either in battle or in civil life has recently been tried and approved by officers of the American Red Cross, who were favorably impressed, says the *Red Cross Magazine*.

The device, which is the invention of Dr. Sigmund Leon Gans, president of the Physicians' Motor Club of Philadelphia, will accommodate two recumbent cases on litters, one semi-recumbent case on the back seat, and two to four sitting cases on the floor of a seven-passenger car and one sitting case with the driver. The attachment costs but little and is very easy of adjustment and can be easily attached or removed from the car.

Principle of Universal Military Training Indorsed

The Clinical Congress of Surgeons of North America, at its Chicago session, October 25, last, adopted a resolution urging on Congress the passage of a measure along the general lines of the Chamberlain bill for universal military training. At a meeting of the committees of the medical section of the Council of National Defense from all the states except Maine and Delaware, held in Chicago October 23, resolutions were passed urging on the government the adoption of a comprehensive plan of universal military training of young men for at least six months on arriving at the age of 19.

THE NEW CHILDREN'S HOSPITAL AT DENVER, COL.

Designed for 65 Patients—Special Adjuncts for Treatment of Deformities—Exterior Plain, Interior Equipment of Approved Types

By MAURICE B. BISCOE, Architect, Denver, Col., and S. S. GOLDWATER, M. D., Consultant, New York

THE new building for the Denver Children's Hospital will accommodate 65 patients, of whom 16 will be in private rooms and the remainder in wards varying in size from 2 to 14 beds each. The building is to be four stories in height in addition to a high basement. On the fourth floor are the babies' wards, operating suite, and orthopedic operating rooms. On the third floor are the children's wards. On the second floor are the private rooms and laboratory. On the first floor are the detention wards, offices, superintendent's and interns' quarters, x-ray department, examining room, and a group of six private rooms. In the basement are kitchens, diet kitchens, servants' and nurses' dining rooms, linen rooms, wet nurses' rooms, men's rooms, storage, refrigeration, disinfection, laundry, and morgue. In the subbasement is the apparatus for heating the building and supplying hot water and steam for the sterilizers, kitchen, and laundry.

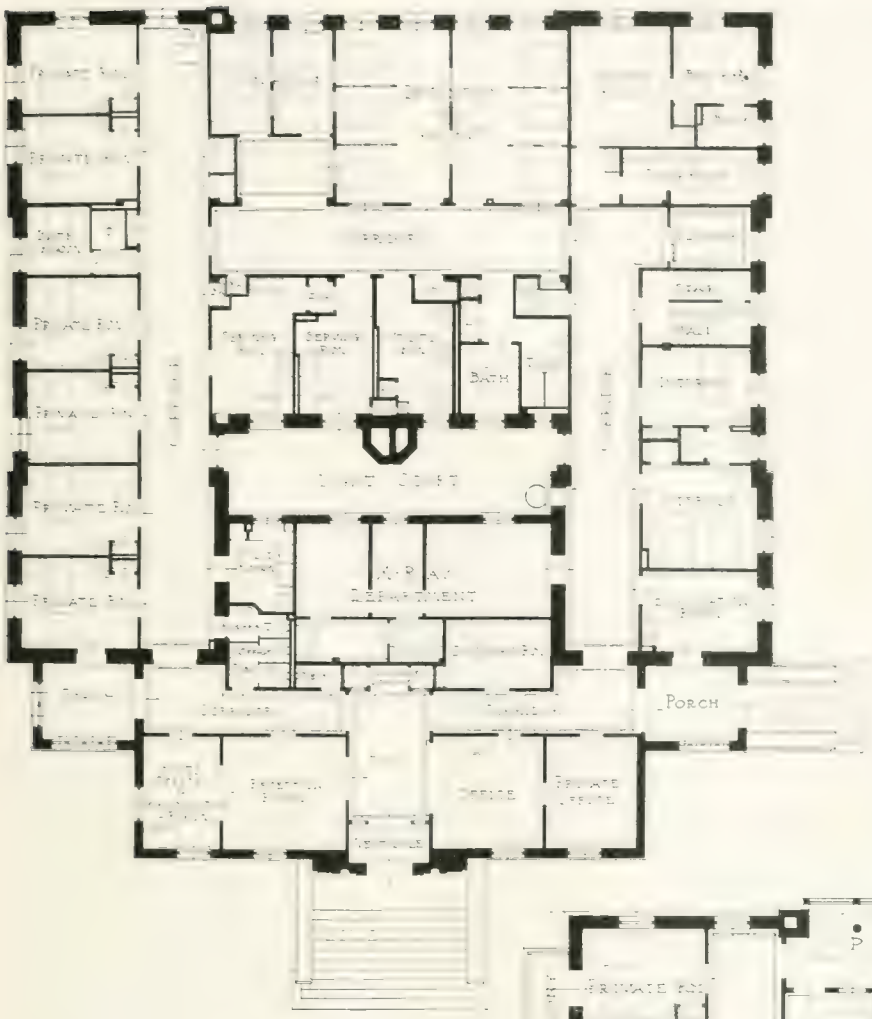
Fig. 1. Denver Children's Hospital. General view.

On each floor is a kitchen for ward service, supplied with artificial refrigeration, steam tables, and gas for cooking, and an incinerator for burning garbage and waste. Each ward kitchen is served from the main kitchen in the basement by an electric dumbwaiter. On each floor are also utility rooms, with complete sterilizing equipment, bath rooms with special arrangements for bathing children, surgical dressing rooms, and toilets for patients and for nurses.

The detention ward on the first floor, where all new ward cases are put until danger of contagion is past, has also its own separate service rooms and an outside entrance, so that it may in emergency be completely isolated from the rest of the building for an indefinite period. Each floor is provided with closets for linen, medicines, supplies, and for the janitor, and with steam blanket warmers. On the third floor is a dining and play room for such ward patients as are able to be up. The operating suite on the fourth floor consists of a large operating room, a small operating room, sterilizing room, scrub room, anesthetizing room, doctors' locker room, nurses' work room, and toilets. On the ward floors are porches with southeast and southwest exposures, sufficient in size to accommodate all the children in the wards, and each private room has a balcony opening directly from it. There is also a large paved roof space over the one-story part of the building, which will be used as a roof garden in summer.

The soiled clothes are taken from each floor in a chute entirely outside the building to disinfecting room in the basement, where they may be sterilized before being sent to the laundry. All the rooms occupied by patients have east, west, or south exposures, only the service rooms, toilets, offices, and operating room being north lighted.

The building is fireproof throughout, and is constructed of brick, concrete, and steel. It is heated by steam. All patients' rooms and wards are ventilated by windows with hopper transoms, while all service rooms, kitchens, and toilets are ventilated by an exhaust fan system. The lighting is entirely indirect, and a complete system of telephones, nurses' signals, and doctors' calls is installed. An electric passenger elevator runs from the basement to the fourth story, and is of a type which may be used either with or without a pilot. The fire escape is of the inclined plane


PRIVATE RM.
BATH
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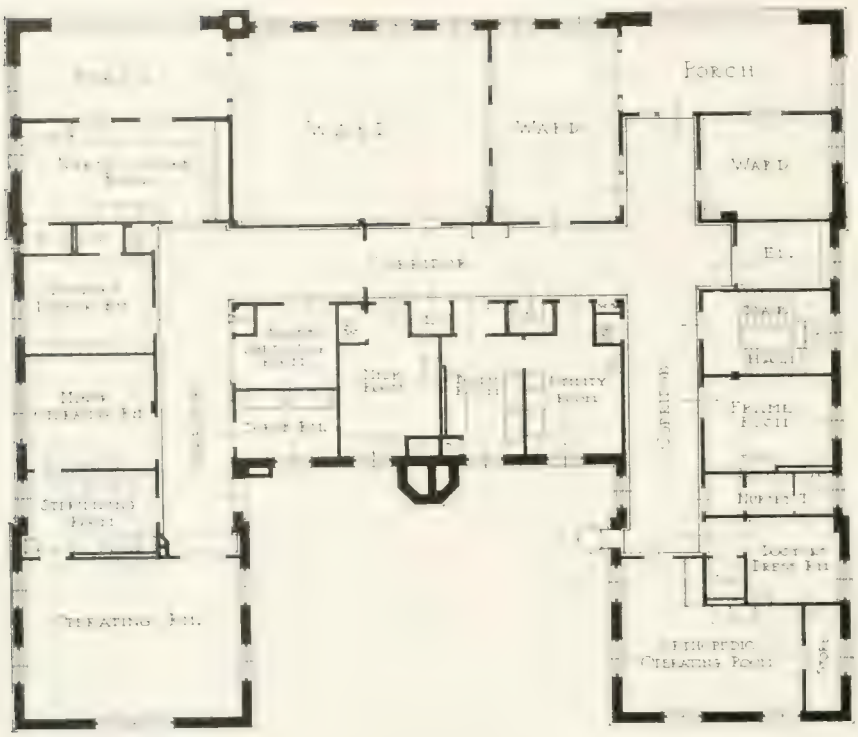

Fig. 4. Denver Children's Hospital. Fourth floor plan.

Hospital No. 1, originally the American Ambulance Hospital at Neuilly, which has "done more than any other to keep the American flag flying in France during the first three years of the war." This hospital was turned over for the care and direction of the United States Army in conjunction with the Red Cross, and will be conducted along the same lines as in the past, namely, for the French soldier. A motor ambulance service of one hundred men to evacuate the wounded from the trains coming into Paris to practically every hospital at the capital has been carried on in connection with this hospital, and will be turned over to the American army.

3. The Ambulance des Alliés at Annel, hitherto conducted by Mrs. Parke, which the Red Cross has increased in size from 75 to 300 beds. The hospital is near the front and affords an unusual chance for American and French personnel to work together.

4. The French hospital at Evreux, under Dr. Fitch, which makes a specialty of treating injuries to bones and joints. This institution is maintained by the French government, the surgical and nursing personnel by the American Red Cross.

5. The Autochir Hospital No. 7, a mobile hospital, practically on wheels and ready to move at any time on short notice, attached to a French evacuating hospital of 1,500 beds near the front. The nursing is done by a group of American women under the control of Mrs. Daley, and the Red Cross has furnished a large part of their equipment.

The Red Cross will open a hospital for the care of its own sick and that of kindred organizations in France.

There is at present not sufficient hospital accommodations to care for the rapidly growing personnel of American civilian workers in case of epidemic. The Red Cross has thus far arranged for thirty beds through the generous cooperation of the American Hospital at Neuilly—which existed as a civil institution before the war and which since has been the instigator of many of the most considerable American medical activities.

The army base hospitals which were organized and equipped by the American Red Cross have, of course, been mustered into the United States Army Medical Corps or have taken over hospitals previously established by Great Britain in France and have have lost their identity as Red Cross organizations. Of something like fifty of these base hospitals, more than a dozen are now in France.—News Service of the American Red Cross.

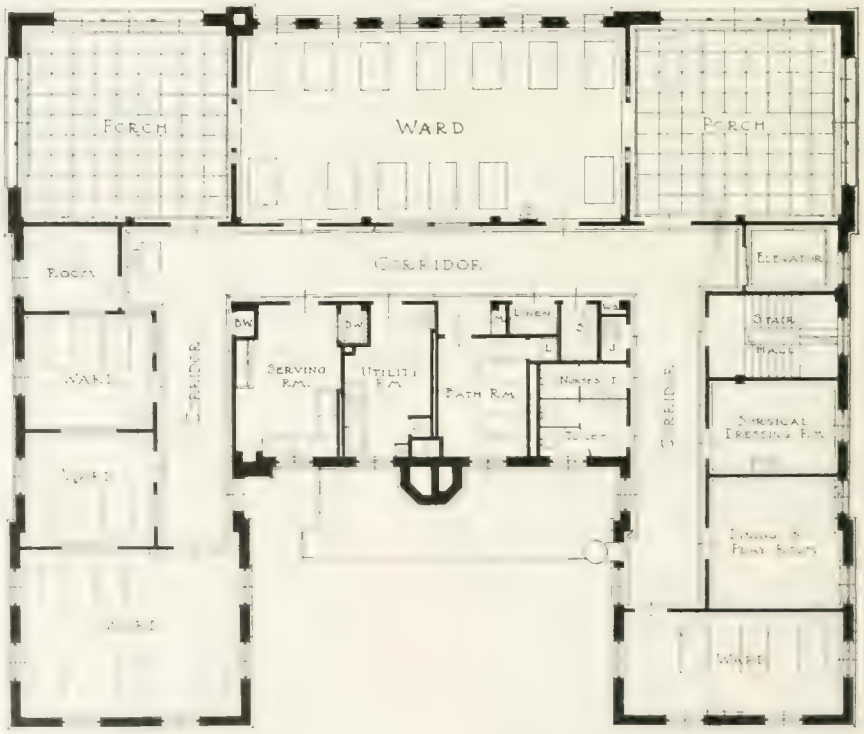

Fig. 5. Denver Children's Hospital. Children's ward floor plan.

You cannot prevent the birds of sorrow from flying over your head, but you can prevent them from building nests in your hair.—Chinese Proverb.

STANDARDIZATION OF HOSPITALS—CLASS VII, SMALL MUNICIPAL HOSPITALS

Political Factors Important—A Hospital Board the Best Controlling Agency—Medical Staff the Most Difficult Problem—Some of the Perplexing Details

By JOHN A. HORNSBY, M. D., Chicago, in Collaboration with MISS MARY WHEELER, Principal of the Illinois Training School, Chicago; DR. SOLOMON STROUSE, Former Pathologist in and now Member of the Medical Staff, Michael Reese Hospital, Chicago; MISS RENA S. ECKMAN, Former Dietitian, Massachusetts General Hospital, now of Teachers College, Columbia University, New York; DR. J. T. CASE, Roentgenologist, Battle Creek, Mich.; DR. EDWARD S. BLAINE, Roentgenologist, Cook County Hospital, Chicago; MR. E. C. LARSON, Former Accountant, now Assistant Superintendent, Michael Reese Hospital, Chicago; MR. MICHAEL M. DAVIS, Jr., Director, Boston Dispensary, Boston, Mass.

WE are to discuss this month small public municipal hospitals as Class VII of our schedule.

There is very little difference between this class of institutions and Classes IV and V, semipublic hospitals and community hospitals of the same size. There are one or two differences, however, that place these public hospitals in a class by themselves.

These latter hospitals are supported by taxation, and, since they are always in small communities, the impulse of their management comes from the class of men who make up the town councils and boards of county commissioners. Such men are seldom informed as to hospital work, and the public that elects them is seldom a well-informed public and usually does not appreciate the modern necessities for a high order of service to the dependent sick. As a pure matter of expediency, we shall not be able to demand of this class of hospitals the same service that may well be demanded of semipublic hospitals of the same size conducted by boards elected by the people who personally give the money for their support.

Moreover, there is in connection with these institutions the same political factor that exists in public metropolitan hospitals. It would be obviously impossible, for instance, to create a medical staff in the same way that we would have a right to expect of the semipublic hospital supported by individual subscriptions. The medical staff in this class of hospitals is created by the particular political faction which happens to be in power at the time that vacancies occur; and, while this is an atrocious admission to make, it is a fact that faces these hospitals and one that must be reckoned with.

The family physician to the president of a town council is very likely to be on the staff of this town hospital, and, because he has much influence with the president of the council, he is going to obtain the appointment of his professional friends in the community, no matter whether they be men of high intelligence, experience, and skill, or whether, though mediocre in professional qualifications, they refer their difficult cases to the man who has influence to obtain their appointment to the staff of the hospital. We say again, this is an atrocious condition to have to meet, and one of the purposes for which standardization is undertaken is to bring about a more enlightened public opinion that shall permeate even into the small communities where such hospitals would naturally obtain and which improved public opinion must eventually result in greater demands in the way of service to the sick.

However, there are some of these small city hospitals whose staffs do excellent work and they will do far better work if they can be shown how.

Let us see now how we can organize one of these small city hospitals, bearing in mind the political aspects of the case and the political aspirations of the people:

First, nothing can be done without the fixing of personal responsibility on someone. If such responsibility is scattered over the personnel of the town council there will be no responsibility at all, and the superintendent of the hospital will be made the scapegoat of every misadventure that comes along, and will be changed so often as to have no opportunity to initiate or carry out any good rule.

The thing to do, if possible, is to have the mayor appoint a hospital board made up of the most responsible people, say, three in number, in the community. If this can be done, we shall have a definite responsibility, placed in the best possible hands, and the responsibility will be out in the open where the public can reckon on it and fix the blame for whatever goes wrong either in the appointment of the staff or in the administrative methods employed. If such a hospital board can be free from interference either by the mayor, the appointing power, or the members of the council who would be expected to supply the money to run the institution, it ought to be possible to create a very excellent medical staff, as nearly free from political influence as could possibly be attained.

This board, in making up its medical staff, ought

to think about some man for chief who would have high ideals of the profession, and it would be better if he could have some administrative ability than if he should be an exceptionally skilled specialist in any branch of medicine.

Then, no matter how small the hospital was, each of the specialties in medicine should be represented on the staff, in the major specialties, such as medicine, surgery, obstetrics, children's diseases, and the contagious diseases, there should be at least two men, so that in the absence of one the other could be counted on for attendance.

If there are more members in any one specialty than the hospital can find work for at any one time, it will be far better to divide up the work within simple, narrow limits rather than divide up the service staff by months. In other words, every member of the medical staff should be in service all the year round. This will keep up the interest of the members, will give continuous attention to the patients, under a uniform and unchanging policy, and will minimize the apparatus and equipment that will have to be used; because, if one man is on for three or six months of the year and then a new man comes on, it is certain that the new man will want something that the outgoing member of the staff did not have, and in the course of time this process would build up almost a double equipment for the accommodation of the incoming and outgoing service members. Moreover, if a man knows that he is going to be continuously on service, he will take an interest in mapping out a scientific policy for himself and will equip himself by keeping up in the literature and by visiting centers of hospital activity, and thus his skill and value to the hospital will be constantly improved.

The minor specialties, such as the eye, the ear, nose, and throat, neurology, and skin diseases, need not have more than one man each, although, if there are two or more specialists in the community, it will be well to put them on the staff. It is astonishing how active the members of the staff will become if there is a competitive spirit aroused among them, and many times a diagnosis that would otherwise be overlooked will be made accurately and treatment applied correctly and aggressively.

Many small communities in this country contain as good medical men as are to be found in the large cities—men who have come from good schools, have served good internships in good hospitals, and constantly keep up in the literature of their profession and do good work. Such men go away occasionally for postgraduate study. If they can be given an opportunity in their hospital at home to apply their skill, experience, and observation, they will measure up well by the side of many other men who have vastly greater opportunities but who have grown stale in the absence of competition.

INTERNS

Interns for these small city hospitals are always hard to get, and it is becoming harder every year to get good men because of the diminishing numbers of graduates that the good schools are turning out. The hospital board in these small communities will either have to pay interns quite good salaries or they will have to create conditions in the institution that will attract men for the experience and practice they will obtain there. A good medical staff is the best possible attraction for an intern. A fifty-bed hospital ought to have at least two interns, and the patients in even a much smaller institution will have far better care if there are two interns, especially if there is the spur of an active and aggressive visiting staff. The hospital board will appoint the interns for such an institution as well as for all other classes of hospitals, but some sort of examination, either oral or written, should be conducted by a committee made up of the various service heads, before the board makes any appointment, and the staff ought to have the final decision as to the educational and professional qualifications of a man who is to be selected as intern. The board must also keep in its own hands, acting through its superintendent, the control and the dismissal of interns, because if this power resides in the medical staff it is certain that some one member, recognized by the interns as having conclusive influence, will get better service from them than the other members, which will at once set up a spirit of dissatisfaction.

The duties of the interns in a small hospital of this sort, where the men are compelled to attend the patients of a large number of staff men, must be arranged on some time basis, because it is certain that there will be several visiting men in the hospital at the same time during the morning hours; the intern cannot possibly visit with each man, nor can he competently care for patients unless he does visit them with their attending physician. The morning hours are generally given up to operating, even in a small hospital, and, as those are also the hours when the staff men make their visits, it would be quite a delicate matter to arrange the intern's time. He will certainly be expected to be in the operating room assisting the surgeon, and even if there are two interns they will both be required in the operating room. Unless the matter is very delicately handled, the medical men and the specialists are going to be aggrieved if they cannot have the intern go about

with them to visit their patients. We can only emphasize the desirability of having a number of interns in the institution.

THE TRAINING SCHOOL

Hospitals of the class that we are now discussing should have their own training school. There is no reason why the schools in this class of hospitals should be created or conducted differently than the other classes that we have already discussed. But these small public hospitals are always going to find it harder to obtain good nursing material than the semipublic hospitals. In the first place, these small city hospitals rarely have decent quarters for their pupil nurses, and it is always a difficult thing to preserve good conditions in these hospitals that make the pupil nurse almost a common menial. They cut down on the number of graduate nurses that are employed to the lowest possible point, and consequently the training of the pupils will be extremely poor. This is bad enough, of course, from the standpoint of the girl, but there is a financial side to it also: this sort of a school will find it almost impossible to attract desirable young women or to keep them in case they should happen to be unfortunate enough to matriculate in the school.

If there is no training school, the hospital has to hire graduate nurses to take care of its patients, and the salaries for these graduate nurses mounts up in the course of the year. Would it not be far better, more economical, and more ethically proper to create decent living conditions for the girls so that they will be attracted to the hospital?

Obviously, a good deal of the training of pupil nurses in these small hospitals must be left to the individual activities of the members of the medical staff, since it is almost impossible for these hospitals to pay for enough graduate nurses capable of teaching to give the pupils an all-round training without help from the medical men, even if that were desirable.

THE LABORATORY

Most cities large enough to afford even a fifty-bed city hospital will have some semblance of a health department, and it is quite possible for the city to employ a pathologist who can do the work for the health department and for the city hospital. It ought to be possible to arrange the time of such a man or woman in some convenient way. It does not make quite so much difference what hours the city pathologist is at work, but it does make a great deal of difference as to the hours when the hospital pathologist should be on duty. It is necessary that an institution pathologist should be in the institution when the medical men visit there. These visits are made in the morning hours. The afternoons for such an officer can be utilized in the health department work. The equipment of the laboratory in the hospitals of this class is a serious matter. Anywhere from $500 to $1,000 will cover the cost; the qualifications of the person holding the position are paramount. It will not do to utilize some practicing physician in the community as the hospital pathologist. Such a man will never be able to serve the other physicians as pathologist even though he were disposed to be entirely unselfish in the matter and free from any bias; the other physicians will not trust him with their cases.

OTHER DEPARTMENTS

What we have said about the other departments in Classes IV and V under our schedule may be understood as applying to this class of hospitals, and it will not be necessary to repeat them.

Further Comment on Standardization

The following remarks have been received from Dr. William R. Dorr, superintendent of St. Luke's Hospital, San Francisco:

These are some general thoughts relative to establishing a basis for standardization of hospitals which, although they run through your articles, do not seem to me to be given the importance they deserve.

GENERAL COMMENT

To me the care of a patient in a hospital naturally divides itself into two general classes, whether the hospital is a teaching hospital, large or small, a private hospital, large or small, or a public hospital, etc. No matter which of these a patient is in, he must have certain care in order to get well. This care divides itself, as said above, into two classes:

1. Professional care, including staff, interns, nurses, pharmacy, operating rooms, laboratories, etc.

2. Physical care or hotel care, including building (construction and location), surroundings, sanitation of buildings, service other than professional, grade of food served, and furnishings.

I believe that before striving to standardize a complexly organized institution such as a university teaching hospital, we should first set forth the minimum requirements in both the professional line and the hotel line that should be observed in an institution before it can be considered a hospital.

There is no question that in all institutions that pretend to be hospitals certain professional care must be given patients, if they are to get well, but it is not necessary to do elaborate research work in an institution in order to cure the patients entrusted to their care. Nor is it necessary to have interns to accomplish the same result; trained clinical clerks developed from the ranks of trained nurses are more permanent and satisfactory.

The same is true relative to hotel care. It is not necessary for the cure of patients that they have a tenderloin steak during their convalescence rather than a rump steak properly cooked; the nutriment is practically the same, but which one of these they get depends on the available

money, whether the patients furnish the money, or whether an endowment furnishes it.

Therefore should we not first set a minimum of what an institution should offer in (1) professional care and (2) hotel care, before said institution could be called a hospital.

Let us first define a *general hospital*, as this class is the most vital to the general public.

One other general observation: We must standardize our hospitals as to what they furnish, not to the staff, the interns, the nurses, etc., but, first, what they furnish the patients, and, second, what the hospital is doing toward preventive medicine among the general public.

COMMENTS ON UNIVERSITY HOSPITAL STANDARDS

Hydrotherapeutic department not given a mark. Why not? Should a university hospital have a pharmacy with a certain percentage and not have a hydrotherapeutic department and still be marked 100? How about other therapeutic departments?

Preventive medicine and education of the public besides staff, interns, nurses, etc., is not taken up or given credit in your article on the university or teaching hospital. Is this not a field that should be given some credit?

CONCLUSIONS

1. Set a minimum of what an institution should offer in equipment, medical service, physical appointments, etc., patients in order to be considered a hospital.

2. Divide hospital care of patients into two main divisions: (1) professional care, and (2) hotel care. Give a possible 100 percent to each of these, but keep them as separate as it is possible to keep them. After this add what should be added for teaching hospitals, for tuberculosis hospitals, and all other classes of hospitals, whether they be large or small, special or general.

3. In all accrediting have one viewpoint, that of the patient, first remembering that a hospital is primarily established for patients.

NURSES' HOMES AND SOME OF THEIR REQUIREMENTS*

Needs of the Various Classes Considered—Some Typical Bedroom Plans—Special Features—Reception Room, Recreation Room, Sewing Room, Etc.

By OLOF Z. CERVIN, Architect, Rock Island, Ill.

A HOSPITAL management face to face with the problem of planning a nurses' home will find little information in books and magazines. This was recently borne in on me, and it was found necessary to make first-hand studies through personal conversation with superintendents and investigation of homes already erected. This paper is based on the opinion of various superintendents and the experience gained in this investigation.

To begin with the bedroom accommodations, hospitals usually find it desirable to provide some single and some double rooms, accommodating about half the number of nurses in each kind. The regular nurses, or rather the permanent nurses, should have, if possible, a floor of their own, or at least a portion of the building to themselves. Among these nurses would be the head nurses, dietitian, matron, and floor nurses. The undergraduate nurses stay at the hospital a comparatively short time, and therefore they do not strike up the friendships or require the special accommodations which should be given those nurses who make their home permanently in the institution. Moreover, the tastes of the one class are frequently quite different from those of the other. Private baths and toilets should always be provided for these permanent nurses.

The night nurses form another group for whom special provision should be made, as they must sleep during the daytime and require the very best attention in order to insure restful sleep. No doubt the best place is in the attic story, where a properly isolated and well-ventilated dormitory would give the greatest privacy. Of course, it must be protected against heat and cold by careful insulation. The night nurses would have their regular bedrooms and would merely sleep in the dormitory.

If the building is over three stories high, it must have an elevator. In these days of the well-nigh perfect "push-button" type, it is unnecessary to employ an attendant with never ceasing expense.

As to the dining room and kitchen, it will depend entirely upon the policy of the institution whether separate equipment be provided for each building or everything be centralized under one control. If it can be done (and the cost is not much greater), the nurses should have their own dining room and their own kitchen, for their requirements are not the same as those of other departments. Even if this is not done, a small kitchen of the buffet type should be provided with a lunch room in connection. The demands on this kitchen for light breakfasts and evening lunches are very great.

Of course, every nurses' home should have a reception room, perhaps one large enough to be divided off, or, still better, smaller rooms so arranged as to connect with a large reception room. The nurses appreciate such an arrangement, for, when receiving, it is far more pleasant to have one's guests in a cozy room by oneself than to be entertaining in a large room where others are

*This paper is the first of a series of articles on the subject of nurses' homes. The next paper will be a description of the Wilson Kistler Memorial Nurses' Home, Lock Haven, Pa.

likely doing the same thing. It reminds one too much of a terminal station. If possible, these rooms should be so arranged that they can be thrown together for larger functions.

A recreation room possibly does more to make nurses satisfied with their work and surroundings than any other feature, excepting good food. This room should be large enough for social functions,

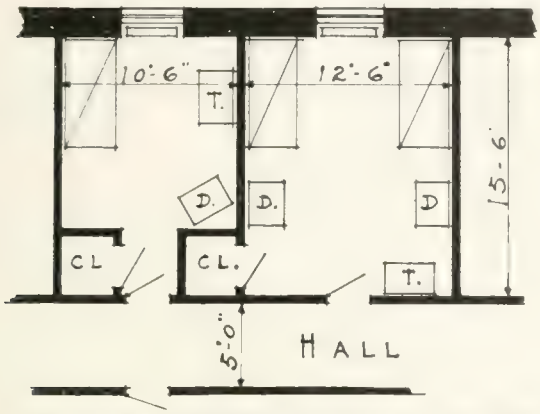

Fig. 1. A common but unattractive arrangement, in nurses' homes, of alternating single and double rooms, with beds by the window.

dances, etc., and while it should not be the reception room, it could readily connect with it.

Then there is the library, which should have well-stocked shelves, a large central table, and small tables with side lights. It should be somewhat secluded.

There should be class rooms for instruction, from one to three according to the size of the home. Class rooms should have from 20 to 30 feet of blackboard. If a portion—say, 10 or 12 feet—is made double, so much the better; the front part

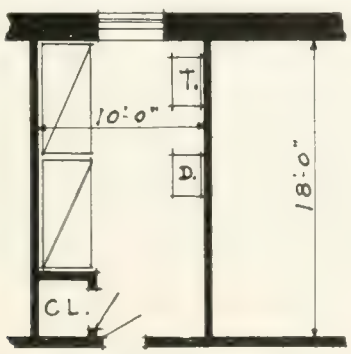

Fig. 2. An economical but even less attractive arrangement—beds close together on one side of the wall.

to be of light material, counterweighted so as to slide up. The board for permanent work to remain for weeks at a time, whereas the other board to be used for work from day to day. Adjoining these or otherwise conveniently located should be complete modern school laboratories, both chemical and physical.

One room often overlooked but highly appreciated where found is the sewing room. Here the girls gather to chat while working. This room should be liberally provided with plugs for power sewing and ironing. It should have direct sunlight, if possible. Moreover, plentiful supply of cupboards, shelves, and wide tables is necessary.

Then there is the trunk room. A very large room, even the whole attic, will be found necessary for the many trunks. Nearly every nurse has a trunk, and it should be easy to get at. The room should be well lighted.

Some superintendents say a small laundry should not be overlooked, even though the nurses are furnished with their laundering free of charge. Many pieces are better off if not sent to the common laundry, and, again, some nurses re-

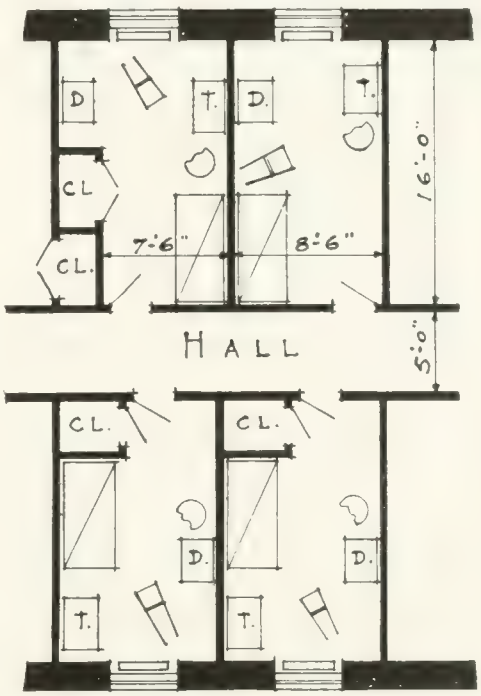

Fig. 3. On one side of the hall (upper portion of plan) an arrangement making use of the wardrobe type of closet; on the other side of the hall (lower portion of plan) rooms with ordinary closet.

quire more than others and are willing to do the excess themselves if they only have an opportunity.

If possible, a gymnasium, airy and not less than 12 feet high, should be provided in the basement, with necessary locker rooms. If a sanitary tile-lined plunge can be added, so much more attractive will the home be found. But a plunge without means of filtering is of little use. Therefore this becomes a large item, and ordinarily showers will be found sufficient.

In these days of much fresh-air talk, sleeping porches should not be overlooked. Many nurses find it almost necessary to sleep outdoors, and all would profit by so doing, and incidentally the gospel of fresh air would be spread still more widely over the land.

The toilet accommodation is ordinarily grouped in one room on each floor and vertically, one room above the other. It is far better to place the baths, showers, and basins in one room and the water-closets in another adjoining for sake of economy. It is safe to estimate, on the basis of providing for eighteen nurses, one shower, four bathtubs, six washbasins, and three water-closets.

Few homes were found with running water in the bedrooms.

It would seem that the nurse's bedroom, which is her castle, should receive greatest attention in the planning. However, this had not been done in many homes. Time and again the only place for beds was close up to the window and there was no space for tables except in the far end of the room.

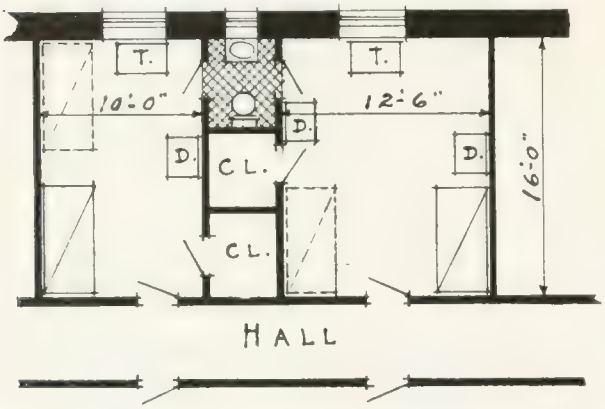

Fig. 4. An attractive but somewhat expensive arrangement with private toilet and commodious closet between two bedrooms.

Then, again, closets were often arranged so that a great deal of space was wasted or at least lost as far as spaciousness of the room is concerned. In some cases, closets were even omitted. It is well to allow no less than 100 square feet floor space per nurse, or say 900 cubic feet minimum.

Fig. 1 shows a very common arrangement of alternating single and double rooms, showing the beds by the window. It is not attractive.

Fig. 2 is another arrangement which is quite economical but even less attractive. The beds stand close together on one side of the wall, giving the room a stiff or mechanical appearance.

In Fig. 3 the problem of closets has been solved with the wardrobe type just deep enough for the ordinary clothes hanger, with one shelf above the hanger and additional space for storage, with a small door above. Below there should be a deep drawer at the floor. This arrangement provides a recess for the dresser, proper location of the table, room for chairs, and space for the bed near the door. This arrangement is shown on one side of the hall. On the other side is shown the ordinary closet. Although the wardrobe type occupies the same amount of space, it affords more room for a table, chair, and dresser near the window than does the other.

A very clever arrangement, though somewhat expensive, is illustrated in Fig. 4, showing a private toilet with washbasin and commodious closets between two bedrooms. With this arrangement the bathtubs are concentrated for each floor, one set above another.

Incidentally, Fig. 4 illustrates one method of doubling the capacity of a nurses' home without increasing the number of bedrooms and still providing some rooms for beginning nurses and better rooms for advanced nurses. When the home is opened, each nurse would have a separate room, the larger room 12½ by 16 for the older nurses, and the smaller room 10 by 16 for the beginners. As the demands grow, the larger room would take care of two nurses of the beginners' class, and the single rooms would be given to the advanced nurses. Still further growth would necessitate doubling up in all rooms, favoring the advanced nurses with the larger rooms.

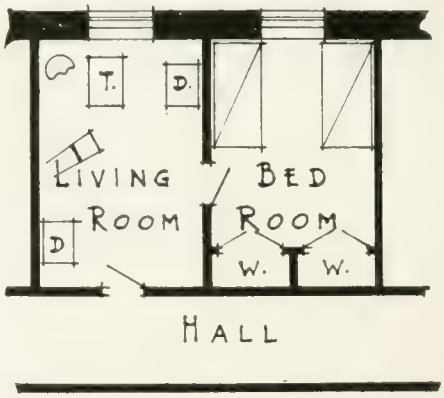

Fig. 5. Two connecting rooms, one used as a bedroom and the other as a sleeping room, with closets in the latter.

One scheme popular with the nurses should not be overlooked. This is shown in Fig. 5, where two rooms connect, the one being used for a bedroom and the other for a sleeping room with the closets in the sleeping room. If this arrangement were combined with the toilet room suggestion No. 4, it would seem that the nurses were provided with all the comforts of home, which would be none too much considering that they are away from their own people and have a very hard and taxing life. No home was found which had ventured this arrangement.

As to ceiling heights, nothing less than 9 feet should be adopted, and this was found very satisfactory in one of the best homes visited. Some homes have ceilings as high as 11 and 12 feet, but this is wasteful.

For the convenience of the nurses and the janitor help, such small items as mop closets, slop sinks, dust chutes with openings from each floor,

clothes chutes, linen supply rooms, speaking tubes, and call bells, and a small "cozy corner" on each floor should not be overlooked. A gas plate in the general bathroom will be convenient for fomentation cloths, heating water for the indispensable water bag or for the janitor's scrub pail. To this should be added an incinerator, either using gas—one for each floor—or a coal incinerator of the type becoming popular in apartment houses, with opening on each floor.

In fact, every little helps, and the less institutional the home, the more cherished will it be.

THE TUBERCULOSIS CLASS*

Results of Class Treatment and Sanatorium Treatment Compared—No Work Permitted Until Disease Is Arrested—Ex-Patients Usually Return to Former Occupations

Dr. Joseph H. Pratt, in a recent article in the *Journal of the Outdoor Life*, emphasizes the superiority of the results obtained by class treatment of tuberculosis over those obtained by sanatorium treatment. For instance, less than 25 percent of sanatorium ex-patients were able to work after eight or ten years, while 42 percent of Dr. Pratt's class members were able to work after this length of time, and this although the Rutland sanatorium admits only favorable cases, while the class refuses no members because of unfavorable outlook.

"Home hospital" improvised on a flat roof. The patients, husband and wife, were both ill with pulmonary tuberculosis and unable to work. Both have recovered and have been working for eight years.

Dr. Pratt's "ideal has been immobilization of the patient" during the active stage. This is not always practicable among the poor. The exertion entailed by visits to the class has been distinctly harmful in some cases, but the class meetings were so helpful in keeping up the courage of members that the physical work of attendance was regarded as a necessary evil. Some patients have attended only once in three or four weeks, but none, except those who are nearly ready for discharge and for whom exercise is prescribed, are allowed to attend oftener than once in two weeks.

Two class patients and their improvised home hospital are shown in the accompanying illustration. The family was found at Christmas, 1907, without money or food. Both husband and wife (the two patients shown in the illustration) were sick with pulmonary tuberculosis. The three children (the eldest only 11) were placed out to board, and a boarding place was found for the two patients where a tent might be pitched on a flat roof. Treatment was taken and both patients recovered; the family is now reunited. The woman has been doing her own housework for eight years, and her husband, who is now a motorman, has been self-supporting for the same length of time.

With the criticism that the class method is too intensive, because so much time, energy, and money are spent on a single patient, Dr. Pratt does not agree. In his view, the tuberculosis problem is, or should be, the individual patient. "Every cured consumptive," he says, "is a potent educational factor. Not only may one tuberculosis class make a real impression on the tuberculosis situation, but the efforts of one nurse expended on a single patient may exert a widespread influence in the tuberculosis crusade." This statement he illustrates by the story of a poor, ignorant, and apparently unteachable negro with far-advanced consumption, who was finally induced to take the proper treatment, though at first suspicious that an attempt was being made to kill him off so that he would not be an expense to the city of Cambridge. This man was well and working July, 1916, and his eleven-dollar sleeping porch serves the purpose of a permanent tuberculosis exhibit in his neighborhood.

"Nearly all the trained workers," says Dr. Pratt, "and those that had learned any sort of trade before their sickness have followed the same occupation since returning to work. When indoor workers have taken out-of-door jobs they have rarely held them. It is usually far less fatiguing for ex-patients to do work to which they are accustomed than to take up some unfamiliar employment. It is most encouraging to find that those who have recovered their health at home are able in the majority of cases to work full time month after month and year after year."

*Dr. Pratt's recent paper on the Emmanuel Church Tuberculosis Class, published in the Boston Medical and Surgical Journal, was abstracted in THE MODERN HOSPITAL, March, p. 211.

The pursuit of knowledge in every direction is strewn with the records of false scents which have been followed for a time, merely to be abandoned when their falsity was at last recognized.—Lord Cromer.

The MODERN HOSPITAL

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Domestic postage, $3.00. Foreign postage, $3.50 (15 Shillings). Single copies, 35 cents.

Domestic rates include United States, Cuba, Mexico, Porto Rico, Canal Zone, Hawaii, and Philippines.

Contributors, subscribers, and readers will find important information on advertising page 42.

Universal Military Training

The cure of disease is a great beneficence to the human race. The medical profession and the hospitals have achieved results of vast and far-reaching value in this field. But in the pursuit of our ideals as physicians and trained hospital workers, more especially during the past decade, or since we have really begun to get back to the cause of disease, we have learned that the cure of individual cases of illness is only a by-product of the science of medicine—that the prevention of disease is the one, overpowering, all-important necessity.

And so it has come about that hygiene, sanitation, pure food, nursing care in the home, outpatient service, and what we call social service, have absorbed our time and thought in constantly increasing degrees, and the cure of disease has been relegated more and more to a place of secondary and minor importance—a mere incident on the road to our real goal, the betterment of the race.

In has been at the instance of the medical profession and as a result of our experiences in the study of preventive medicine that athletic training has been encouraged in the colleges, that playgrounds and gymnasiums have been opened for the children in our public schools, and sports have been fostered in our public parks. But we had hardly paused long enough from the work itself to take stock to see where we were, physically, mentally, and morally as a people, in the light of our recent experiences. Then suddenly the world war came, and called immediately all that was best and strongest in all of the best of us, to meet in open combat all the best that was in our enemies. We were compelled to take stock of ourselves.

How has that stock-taking turned out? Let us see! The Surgeon-General of the United States Navy has reported that, out of 106,392 applicants for enlistment for the strenuous work of the war, 70 percent were rejected because of physical unfitness. The Surgeon-General of the Army has found, as a result of the past draft of 1,300,000 young men between the ages of 21 and 31, that only 448,859 were found physically fit, more than 66 percent being consigned to the scrap heap so far as their physical qualifications were concerned.

These figures must jar us mightily from our pedestal of smug self-satisfaction. We are an unfit people—the majority of us, even measuring by the very best of us, our young men, the fathers of the next generation.

What are we going to do about it? We know that physical fitness is coupled closely with mental and moral fitness. We know that physical perfection does not just happen so, that it means properly chosen, wisely guided exercise, proper food, proper clothing, ventilation, sanitation, and all in an environment specially devised to insure good health.

We have had a lesson in all this during the few past strenuous months. We have seen some of our boys, pale, undernourished, narrow-chested, nicotine-soaked—we have seen them go into the training camps of the army—and in three months we have not known them. They have come home to visit among their home folks for a few hours or days occasionally—strong, vigorous, light-stepping, upstanding, clear-eyed, clear-brained young athletes, fit to fight for a nation's rights.

Suppose the war were to end tomorrow, could these boys go back again to their old physical unfitness? Never. They have tasted health, and they have learned how it may be theirs to keep, and they propose to keep it.

Does all this mean anything—or is it all wasted? Are we, who are so concerned with the betterment of the race to start all over again, ignoring the greatest lesson that history has ever recorded, seeking in the depths the answer that is written full-size in the face and form of a million of our young men who go from us veritable young Apollos to save democracy?

Can one ask the answer? It is universal military training—not training for war, of necessity, but training for peace, training for fatherhood, for moral, for mental, and for physical mastery, training for the battle of life, not only for themselves, but for all posterity.

And shall we have universal military training? The answer is up to the Congress just now assembled. The whole medical profession is for the Chamberlain bill that prescribes universal military training for every boy in the land. Every thoughtful, well-informed man in the country is for it. Every girl growing to womanhood demands it for the father of the children of whom she hopes some day to be the mother. The nation needs it if her sons and daughters are to grow great and not decay.

Shall we have it?

Standards for Hospital Dietitians

In the Department of Dietetics, this issue, will be found a paper by Miss Rena S. Eckman on the subject of "Standardization of the Work and Training of the Dietitian." Hospital administrators will do well to read this paper and study it carefully, because Miss Eckman, one of the few thoroughly trained dietitians in this country, demonstrates unequivocally, not only the fact that the dietitian has "come to stay," but also the directions of her greatest usefulness.

The dietitian, as Miss Eckman says, goes into the hospital, not to usurp the functions of others, but to make for herself a place that has heretofore not been filled. The cook or chef in a hospital may prepare food most excellently, and the housekeeper or the principal of the training school may manage the serving of it most appetizingly, promptly, and in attractive condition. The doctor may order his patient fed along certain definite lines to secure definite results, in a scientific way. But who is there to carry out the doctor's orders in step with our present scientific knowledge of the special feeding of the sick, unless it be a trained dietitian? What does a cook or chef know about scientific feeding? What does the principal of the training school in the average hospital know about scientific feeding? Yes, we may even ask, what does the average physician know about the practical carrying out of his own orders for scientific feeding?

As Miss Eckman points out, the duties of the modern dietitian have not yet been standardized; the individual in each hospital makes her own place as best she can, fulfilling the demands of the medical profession in so far as she is permitted to fill them, and it is the individual in the concrete rather than the dietitian in the abstract who will make for or against that office in the modern hospital.

Miss Eckman further points out that the trained dietitian not only will not usurp anybody's functions or privileges or responsibilities, but will see new responsibilities peculiarly her own, the burden of which is not borne by anyone in the average present-day hospital until a properly trained and efficient dietitian is installed in the institution.

A competent dietitian in a hospital will do more to help the medical staff in the proper feeding of their patients than any amount of literature on the subject that can be placed before the doctors. Medical men are peculiarly indifferent to the practical carrying out of such orders; for instance, as those concerning the items of food to be fed to their patients; indeed, most doctors are entirely unfamiliar with the chemical contents of the average foods that go to the table, a fact commented on by Mr. John Phillips Street elsewhere in this issue. There is not one physician in one hundred who could make even a decent guess as to the number of calories or the amount of protein that his patient is getting, even when the menu and the amount of each article of food are before him; but the doctor could tell instantly what he wants his patient to have as to calories and chemical contents. In this connection, we commend the study of Mr. Street's article just mentioned and the very helpful tables which accompany it.

As we have urged many times, the special feeding of the sick is taking an ever larger place in modern therapeutics. We are displacing drugs by foods. The transformation is to grow greater until, in the not distant future, the drugging of patients is to be negligible and the special feeding of the sick is to be of prime importance. It is a certainty that this transformation is to arrive quickly or slowly in proportion to the efficiency of the agencies employed.

It is true, as Miss Eckman says, that there are many doctors who want no brains in the kitchen, but, with all due respect to the profession, it may be said with equal truth that the progressive modern hospital does want brains in its medical staff, and the man of the staff who fails to realize the scientific value of special feeding is not in step with modern therapeutics. The dietitian is not going to leave the modern hospital because such a physician does not want her, but the physician, on the other hand, is going to be dropped from that staff because he fails to realize the necessity for her service and the importance of her presence.

The dietitian has come to stay. The medical man who does not appreciate her is rapidly becoming a "back number."

The Modern Hospital This Year

Entering upon a new year, THE MODERN HOSPITAL thinks it well to take its readers into its confidence concerning promised material for publication.

With this number, we are inaugurating a new department which we think ought to prove of great interest and profit to the hospitals. It is to be called "War-Time Institutional Economies." In this department we expect to publish methods inaugurated in the hospitals for reducing expenses and to improve the service. This new department is to be of value in proportion as the hospitals themselves contribute to make it so. There are individual institutions all over the country whose superintendents have initiative and enterprise and who are instituting various improvements and various economies in step with this critical time in the history of our country. If each hospital will tell us what it is doing along these general lines the sum total of the information ought to improve conditions in the hospitals all over the country. We invite trustees, staff members, superintendents, and department heads of hospitals to contribute to make this new department of value.

In this number also we begin the publication of a series of illustrated articles on nurses' homes. There seem to be no definite standards for the arrangement and construction of nurses' homes and an attempt is to be made to arrive at something like standards in planning and in construction. This series of articles ought to be well worth while, especially to those who are thinking about building nurses' homes and to those who are finding it imperative to increase accommodations in homes already in operation.

The February number of THE MODERN HOSPITAL is to contain a rather exhaustive discussion of problems in small hospitals, architectural, equipment, and administrative. Already there is material at hand for a very valuable symposium on this subject. Many hospitals seem to be intensely alive to the need for discussion of the special problems of small hospitals, and their administrators have contributed liberally to make this number valuable.

Just a little later it is proposed to dedicate a number largely to a continuation of the discussion of the problems of the reconstruction and reeducation of handicapped people, initiated in our Occupational Therapy number last June. Many large manufacturers of the country, filled with a spirit of patriotism and service, are giving a vast amount of thought to the problems of the handicapped, and are undertaking to make surveys in their own establishments to determine whether it is not possible to turn over some of their technical operations to this class of workers. In this connection, one of the most interesting articles on this subject is one which appears this month, well illustrated, concerning the operations of the Crocker-Wheeler Electrical Company, where the winding of armatures and the manufacture of special apparatus is being taught to the blind.

Many commercial operations require very special skill of certain parts of the body. Some of these need only the hands and fingers. Some of these operations do not need feet or legs in their doing; many others can be done by one-armed people.

The scarcity of labor incident to the war has made it absolutely necessary for us to utilize every possible labor resource, and it is a most promising commentary on the patriotism and resourcefulness of our people that they have entered heart and soul into the attempt to use every particle of energy, man power, and mind power, that our population affords. The exhaustive discussion of these many problems ought to be of intense interest and profit.

This year is to be a practical year in the columns of THE MODERN HOSPITAL. We propose to get down to cold facts, and, to the end that we may do so in a practical way, we very genuinely beseech the hospital people to help to make this year's MODERN HOSPITAL one of practical usefulness in the institutions of the country.

A Chance for the Delinquent Boy

The normal boy is an adventurer, who would look forward with more joy to being a pirate than a bank president. This is not because of innate depravity, but because youth demands and must have an outlet for its energies, and learns only through slow experience that there is scope for daring and bravery and endurance in what looks like the dull muddle of civilized pursuits. The boy who has not been by turns Kit Carson, Captain Kidd, and Big Chief Bear-on-the-Warpath has missed something out of life for which no later honors or successes can compensate. On the other hand, the boy who has the misfortune to grow up amid surroundings which starve his imagination and prevent his natural craving for adventure and achievement from working off in healthful play—the boy to whom outwitting or defying the corner policeman is almost the only deed of reckless prowess imaginable—this boy is likely to be branded as a delinquent and a lawbreaker before he outgrows the restless instability of youth. Hence it comes that among so-called juvenile criminals are many boys who are not essentially differ-

ent from the boys of our own families. Given a fair chance, such boys will prove themselves worthy of an honorable place in society.

For instance, from England comes the record of the boys of the Philanthropic Society's Farm School at Redhill, an institution apparently much like our reform schools. *The Hospital* says that most of these boys do well in after life, and that, among 761 former pupils of the Farm School serving as soldiers or sailors in the present war, the following particularly creditable showing of honors is distributed: six mentions in dispatches, seven awards of the D. C. M. (one twice), eleven Military Medals, three Russian Crosses of St. George, one Military Cross, six commissions from the ranks, and a considerable number of various degrees of non-commissioned rank. "Not a bad record," remarks *The Hospital,* "for boys who might under other circumstances have become a misery to themselves and a misfortune to their country."

Similar testimony comes from an American engaged in correctional work. "The average boy who is sent to us is the boy who in the beginning did not have 'a man's chance,'" says Mr. A. G. Blakey, superintendent of the Missouri Reformatory, on another page of this issue; and he goes on to say that work is the most valuable remedial agency that can be offered the boy who has begun to go wrong. The boy workers of the Missouri Reformatory are "doing their bit" in food production for the country in its hour of need, and among them are several, Mr. Blakey tells us, who are doing splendidly without supervision.

We are beginning to learn that it is not only foolish but wicked to waste wantonly a lump of sugar or a scrap of good bread. Let us hope that we shall not be long in learning the even more important lesson that to waste the country's human resources is even worse economics than to waste food. A chance for the delinquent boy is not merely justice to him. We cannot afford to waste the good material in many of these so-called delinquent youths.

The Demand for More Study of Tuberculosis

Every so often some serious student of medicine brings us up with a sudden jolt from our comfortable, if not smug, self-satisfaction with the direction in which we are going and the progress we are making. Just now we are referring to a "Letter to the Editor" on "More Knowledge Instead of More Sanatoriums," by Dr. Mary E. Lapham, published in the December number of THE MODERN HOSPITAL.

Dr. Lapham takes the medical profession to task for not attacking the problem of tuberculosis by way of prevention instead of at the stage where palliation or possible cure are our only hopes. She insists that if a serious and scientific study of tuberculosis were made we would soon have fewer hospitals and fewer sanatoriums. Such letters as Dr. Lapham's are mighty well worth while; they give us pause to inquire in our own minds as to whether or not we are on the right track.

But we doubt very much whether Dr. Lapham is quite fair to the present-day status of the problem of tuberculosis. The National Association for the Study and Prevention of Tuberculosis has done an immense amount of work in the field of research. Scientific investigators all over the country have been working at it and probably more progress has been made in the last two or three years than in all the time that has gone before, but there are still many unsolved problems, of course, the most important being the remote cause of tuberculosis. While it is true that we know very little about the bacillus, except in the one stage of its development, that fact is not because we have not spent the energy and enterprise and skill and scientific inquiry to find out.

Of course, it is true that one of the first effects of a better knowledge of tuberculosis will be the closing of some hospitals and sanatoriums, but it seems to us that the hospital or sanatorium is the best possible place to study the problem, as a laboratory—and then again there are some places in this country in which tuberculosis sanatoriums have been closed notwithstanding an increase in the number of cases of tuberculosis and in the number of deaths therefrom. For instance, just now at Kansas City, a very fine new municipal tuberculosis sanatorium is being closed "for want of funds," but tuberculosis in Kansas City is on the increase.

Let us by all means study harder on the problem of tuberculosis, going back, if we can, to the remote cause of the stimulation into activity of the bacillus, but it does not seem to us that we have arrived at a stage beyond where we can think about closing hospitals or sanatoriums in order to meet the demands of the problem.

Three Stimulating Contributions on Employment

In other columns we are publishing papers by Mr. John L. Whitman, state superintendent of prisons for Illinois and one of the best-known prison reform experts in this country, and Dr. E. L. Hill, managing officer of the Jacksonville (Ill.) State Hospital; also a letter from Mr. A. G. Blakey, superintendent of the Missouri Reformatory, on the subject of institutional occupation. Mr. Whitman takes the subject as it affects the

criminal, Dr. Hill as it affects the patient in the hospital for the insane, and Mr. Blakey as it affects the delinquent boy.

These are notable papers, on a subject the importance of which we are just now beginning to appreciate. While Mr. Whitman does not say so in his present paper, he would doubtless be willing to admit, as he has often admitted, that the criminal is not very far removed, as a class, from the patient suffering from a disease of the mind. Mr. Whitman and Dr. Hill agree that the greatest possible hope for cure lies in properly applied occupation, occupation that may and should be prescribed as a therapeutic agent. So does Mr. Blakey, though, as a "plain blunt man," he will have none of that mouth-filling term, "occupational therapy," but pins his faith instead to "plain, old-fashioned work."

The war, already furnishing its millions of maimed and handicapped derelicts, society turning out from its ill-balanced processes other millions of irresponsible and handicapped misfits, make it one of the most urgent needs of the time that we master this all-pervading problem of employment—master it so that industrial labor in its highly specialized competition will not be set up against state-aided labor, in a competitive way, but so that both forms of occupation may contribute their just quota to the sum total of the world's wealth, while contributing at the same time to the well-being of all.

This is a field in which the medical profession and the student of modern hospitals may find unlimited material upon which to employ all their imagination, all their resourcefulness, and all their great heartedness.

Solving Hospital Problems

When you have a hard hospital problem to solve, it is poor policy to sit down, before you have concentrated on the problem whatever good sense, initiative, and resourcefulness you yourself have, and pore over the literature to see what someone else has done under like conditions. It is almost certain that when you find a case in point it will differ from your own problem, and generally it will differ so greatly that what the other fellow did will not apply to your own case at all.

Most hospital problems are capable of solution by the logical employment of common-sense principles. There are no secrets and no mysteries about hospital business. It is true that what small literature we have is a veritable gold mine of the collective experiences of hospital workers, but it requires common sense and initiative for anyone to apply the experience of others to his own case at hand. Many hospital workers are utterly helpless unless they can find somewhere in the literature just exactly a case in point, and there are so few cases that will fit all the conditions.

THE HOSPITAL—A TEACHING INSTITUTION*

Difference Between Teaching and Non-Teaching Hospitals in Favor of the Former—Advantages to the Patient, the Hospital, and the Student From Ward Teaching—Superintendent's Duty to Educate His Board of Trustees

BY HAROLD C. GOODWIN, M. D., Superintendent Albany Hospital, Albany, N. Y.

A teaching hospital is one that offers to medical students and physicians the greatest opportunity for study and provides better care for its patients.

A teaching hospital differs in many ways from the non-teaching. The aims of one are far different from the aims of the other, and it takes years of adjustment and changes in organization and equipment before the final touches are applied. One seeks to lead in the world of medical improvement and science; the other merely follows. When the object of an organization is only to care for the sick who apply for relief, it naturally develops in no other way. Its doors are thrown open to many of the reputable physicians in the community, and, in some instances, to all registered physicians, with the idea of encouraging these men to send their patients to the hospital. Is it not a mistaken idea that such a hospital is doing the greatest good to the greatest number? In most of the hospitals without medical school association, the training school is considered as a necessary adjunct and develops according to the local needs, seldom with the idea of maintaining a a model school for nurses. Development is apt to be in a one-sided manner, surgical cases predominating. New methods of administration, treatment, etc., are used only after the developmental work has been done in an institution where study and research are carried on systematically.

The organization of one is apt to be loose and disconnected. The trustees are often chosen on account of wealth or social prestige, and appointments to the staff are made as a result of large private practices or social or political influence. In the teaching hospital the organization is built up carefully. Trustees are selected because they are leaders in philanthropic and educational work. Appointments to the staff are made because of ability. The superintendent and the principal of the training school are selected because they are in sympathy with the development of higher education and not because they are willing to submerge their ideals to carry out the wishes of an unwise and penurious board. New medical men of ability coming into the community are sought rather than repulsed, and often vacancies are left open for long periods waiting for men of the right caliber to fill them.

The two institutions differ in the character of their patients. One caters to a large private-room clientele in order to earn its existence, the other to a large ward service for possibilities of study, seeking the necessary financial aid for its maintenance from those private individuals who have sufficient means to contribute to the relief of their less fortunate neighbors.

In the non-teaching hospital there is no incentive for the attending men to undertake prolonged and connected study of cases and report results, and the stimulus of an alert student body is lacking. Scarcely ever is attention given to the training of the interns or to checking the clinical findings by autopsy or end-result work. The authorities in many non-teaching hospitals allow physicians

*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

to charge fees, not only to those who are paying more than the cost of maintenance, but also to those who are taken care of at a loss in the public and semiprivate wards. The end results of such a method are not always commendable. The case in question is worked out by a single individual with few if any notes or records, while in the other type of hospital there is clinical team-work, and it is the rule rather than the exception for each man to consult with all the other specialists.

It is recorded that the first step taken by any hospital toward teaching was in 1762, when the Pennsylvania Hospital founded a medical library. Although the Pennsylvania Hospital was founded so that the student "must join example with study," it was not until later (1765) that, through the efforts of Thomas Bond, bedside instructions were given. The New York Hospital, in 1776, did the same, and although it is well known that a library is more necessary to a medical student than a stethoscope, there are hundreds of hospitals today without a library and with no funds available for even the ordinary medical journals. After the establishment of libraries it was only a short step to allowing the apprenticed student to follow his preceptor through the wards, providing the preceptor had such privileges himself. For over a hundred years the method of teaching was practically a disgrace. Schools were run as diploma mills. Advertising and laxity in preliminary requirements kept the student bodies large. Hospital bedside training and clinical laboratory work could in most instances be obtained only after graduation. The positions as interns were much sought after and hard to get. There were few standards regarding curriculum or time to be spent in study. Lectures and recitations were the only method of instruction, and laboratories were scarce, ill equipped and rarely used. Many schools existed without any connection with university or college, and others that advertised as parts of such were in many cases bound together by the weakest of bonds. The parent institution was not sponsor for the finances or even acquainted with the opportunities offered, but every detail was in complete charge of a group of physicians who divided the fees and encouraged the students, after graduation, to send for them as consultants, although the university or college allowed its name to be used.

During the last ten or fifteen years the standard of medical education has advanced. In many instances the first two years' teaching has been in university laboratories and by university professors. The contrast between these exact methods and the methods in vogue for the last two years of clinical work was so great that the authorities were aroused to their responsibilities. The severe criticism of the Carnegie Foundation also brought many of them to an abrupt halt. Dartmouth Medical School recognized that without large and well-equipped clinics the last two years could not be taught. It is fully understood that the last two years of medicine must bear as intimate a relation to the hospital as the first two years bear to the physiological, chemical, biological, and anatomical laboratories, and that no greater stress should be laid on the first two years of laboratory work than on the last two years of clinical hospital medical school work. The last half of a medical student's work should be carried on in a "hospital medical school."

Is it not possible that the chaotic relations existing between hospitals and medical schools, as shown by the Carnegie report of 1910, were in a great measure due to unsympathetic superintendents, who had allowed themselves to live in a narrow groove and had not tried properly to influence their trustees to see this duty and the advantages it would bring?

It is just as much the duty of the superintendent to educate and train his trustees for the benefit of his institution as it is for the general manager of any mercantile business. Do our boards employ us merely as errand boys to carry out their ideas, or do they desire us to show some initiative?

An institution which has been under the control of one executive for a period, say, of ten years, reflects very clearly his attitude, and if after this length of time he looks back and sees that his board is not following him, but he is following them, he can truly say he has failed. I remember well the advice of a friend at a time when I was assuming a new position:

"Learn their methods. Do not try to introduce new things at once. It may be that they have good reasons for the different way in which they conduct their affairs. The ideas you think are new may have been tried fifty years ago and found impossible. Drop in without making a splash, and, after you are in, grasp one thing at a time. Work hard and long until you know every detail and your board knows you. After you are no longer new, you will be better able to weather any storm of opposition which appears when you try to introduce beneficial changes."

Although the past is dark as regards hospital teaching, the present seems bright. In the first place, there are fewer medical schools, and those that have survived have materially raised their standard of admission and teaching. Students are no longer diverted by glaring advertisements from mechanical trades, which they have started to learn. State legislation all over the country is tending toward better preliminary education and even toward a compulsory fifth year to be spent in a hospital. This condition will be ideal, for then no longer will the medical school with wholly inadequate facilities for turning out properly trained physicians be able to inflict on a long-suffering community men who must get their medical education after they have graduated. Then, again, students who have graduated from such an institution will not find afterward by bitter experience that, although they have spent their time and their money, they have failed to receive competent instruction and experience. Can you imagine the feelings of a young physician, after spending four years in connection with a poor teaching institution, on finding out that he has been given the most meager kind of an opportunity and is not qualified by the instruc- he has received to be on a level with men who attended a medical school connected with a reputable university with every facility for teaching?

The time is rapidly approaching when all hospitals are to be standardized and inspected regularly by competently trained men, and this is as it should be, particularly as regards teaching institutions, for it should be thoroughly understood by the general public what the rating is of every hospital, as compared with other hospitals offering their wards for teaching purposes.

Now that all agree that the teaching hospital with its wards and dispensaries and varied clinics is necessary for the last two years of instruction of a medical student, there are a great many affiliations being made between hospitals and medical schools. In some cases a university or college has founded its own hospital in which the professors teaching certain subjects have complete control of the clinical material in the wards and dispensaries of the hospital. In other instances, gentlemen's agreements are being made between boards of trustees of the two institutions which effect the same purpose so long as the clinical

material is absolutely under the control of the teaching staff. This form of union means that the controlling body of the medical school and the hospital must be of the same mind, otherwise there is little chance for success. The superintendent and his board of trustees must know that a teaching hospital is much more expensive to run and the per capita cost of caring for patients is higher. A broad-minded executive will readily see that the benefits derived by using the wards for teaching purposes and the laboratories for research work are so great as to warrant this increase in the expenditure of money.

While not every hospital can be connected with a university medical school, each can in a way become a teaching institution and gain a great many of the advantages of having a student body using the clinical material for study. Each hospital, no matter where situated geographically, should be the center of teaching to which the men in the surrounding country may turn when they wish to increase their experience or carry on some special study. The laboratories of these smaller institutions should be equipped adequately, and the men in charge of the different services, such as medicine and surgery, should build up clinical teams composed of men practicing in the vicinity who are anxious to devote some portion of their time each day to hospital work, with the idea of keeping abreast of the times. It ought not to be necessary for men to leave their private practices and come to the large cities for six weeks', three months', and six months' courses of post-graduate instruction when a hospital in their own neighborhood can offer the same advantages, possibly not in the amount of material, but by allowing them to come in closer contact with the cases. Such opportunities given to men who have no appointments in local hospitals would tend to do away with the bitter feeling which exists between those who are successful in securing appointments and those who are not. By this method the surgeon or physician on his daily rounds would welcome visiting men of the community, and, without interfering with the opportunities of the intern, be able to give the local men instruction and work to do which would be of benefit to them and make them better diagnosticians, etc.

Let us sum up the benefits to be derived from a teaching hospital not to be had in a non-teaching hospital.

When I was asked to prepare this paper, I had already been interested in this subject for about three years as a result of an effort on the part of our institution to develop its teaching side. It so happens that the board of trustees of the Albany Medical College of Union University and the board of trustees of the Albany Hospital are almost identical in personnel, and the men most thoroughly interested in the one are also most interested in the other. As a result a survey of our institution was made by Dr. Winford Smith in November, 1916, during which survey he outlined a program of development to cover five years. Some of this preliminary work, such as raising funds, etc., necessitated correspondence with men well known in hospital life throughout the United States, and by quoting extracts from their letters I am able to sum up their ideas of the value of such an institution to a community:

Dr. Herbert B. Howard, superintendent of the Peter Bent Brigham Hospital, says:

"Nothing so makes for accuracy of work as teaching in a hospital. Were I a patient I should look out that I was treated in a teaching hospital."

Dr. Winford H. Smith, superintendent of the Johns Hopkins Hospital, writes:

"The question is sometimes asked us why the hospitals should bother with the medical schools, and if teaching in the hospital does not disturb the patient. Hospitals are the training schools where students of medicine obtain their practical experience, and we must all be interested in the training of competent doctors. Teaching does not interfere with the best interest of the patient, quite the contrary.

"I am of the profound conviction that the hospital which enters into the function of teaching seriously and specifically is the better hospital because of that service.

"Then, too, there is the visiting staff of physicians and surgeons, who, by study of large groups of patients, by the experience gained in operating upon large numbers of patients, acquire a skill and technic which make them authorities in their subjects and leaders in their profession. In the laboratories, too, as a result of careful, routine study, or of painstaking experimental work, new facts have been discovered which have added to the knowledge of disease and the methods of combating it. All of this means progress and benefit to mankind."

Dr. Renwick R. Ross, superintendent of the Buffalo General Hospital, says:

"The patients of any hospital which has a teaching staff are far better cared for and more scientifically treated than in hospitals without such an organization."

Dr. A. R. Warner, superintendent of the Lakeside Hospital, says:

"Not only are the sick of the wards and in the home city benefited, but standards are impressed upon hospitals and all physicians who come in contact with the work. The students and interns carry its standards and advancements to surrounding communities. The common level is thereby markedly affected. The good hospital therefore not only opens its wards to medical students for educational purposes, but also considers it an obligation to collect and continue to furnish a thinking staff that they may contribute to and that they may establish better routine treatments and treatment patterns for the future guidance of local physicians, interns, and students.

"As to research, it may not be possible for all institutions to make wonderful discoveries, but it is possible for every teaching institution to acquire a staff of independently thinking and working medical men by providing opportunities for this work. The gain in new discoveries may be nothing, but the gain from the work and the working conditions will add to the effectiveness of the institution as expressed above sufficiently to justify organization and expenditures along this line.

"Not all hospitals can attain such organization as outlined above. It seems extremely difficult for institutions not connected with universities to attain the full measure of usefulness. The presence of a university staff, the university ideas, and accepted university customs appear essential. Given this, however, the attainment for the community of a medical institution of the highest value and usefulness depends absolutely and wholly upon purchasable facilities. If to a university foundation good facilities for work are added, men of the highest standard become readily obtainable and the benefits to the community are thereby assured."

Dr. George Blumer, dean of the Yale University School of Medicine, writes:

"The advantages to a general hospital of affiliation with an A class medical school are very great. I am assuming, of course, that it is taken for granted than in an A class school the heads of the clinical departments are able to devote at least the major portion of their time to teaching, hospital work, and research. Personally, I am convinced that it will only be a matter of a few years before all of the better schools will have so-called full-time clinical professors; but, even if this condition does not exist, to approximate it is often possible owing to the devotion and self-sacrifice of the heads of the clinical departments in a given school. The main advantages which accrue to a general hospital from affiliation with a first-class medical school are associated partly with the organization of the hospital and partly with the personnel of the school.

"I am assuming that the organization of the hospital under such a plan would not be the ordinary American organization whereby there are multiple heads of depart-

ments who change at frequent intervals. On the contrary, I assume that each major department is under one responsible head, who is in a position to maintain a uniform policy and to whom associates are responsible. Such an organization is one of the great assets of our university hospitals. In the second place, affiliation with a medical school insures to the hospital, as a rule, a more highly trained staff than can be obtained in the average community, for the reason that a first-class medical school does not depend on the physicians of the community for its heads of departments, but selects men for these positions on merit alone. This being the case, such men are naturally specially trained for the positions they are to occupy; and, furthermore, their teaching being their main work, they are able to devote a great deal more time and thought to the affairs of the hospital than was possible under the old system of rotating services in which the heads of the department were picked from the community and under which they depended upon their practice for their chief source of income.

"Furthermore, a medical school brings to a hospital an organized body of experts in the medical sciences, and nowadays in the thorough study of disease we have to rely upon the coordination between practicing physicians, physiological chemists, pathologists, serologists, bacteriologists, roentgenologists, etc. It would be almost impossible for the hospital to assume the burden of carrying such a staff of specialists without the aid of a well-organized medical school.

"It should also be noted that the students themselves are a distinct asset to the hospital and not, as the laity sometimes assume, a source of worry and friction. As teaching hospitals are now organized, the medical student is as much a part of the machinery of the hospital as the intern. He frees the intern from a good deal of simple routine work and permits the latter to carry on the more complicated and exacting kinds of work so that the more careful studying of the patients becomes possible. My experience here in recent years has resulted in the very decided opinion that it is very exceptional for patients to object to the presence of students in the wards, and that many of the patients enjoy being used for teaching purposes, as they feel that their cases are thoroughly discussed, and, indeed, I think, actually are conscious of the fact sometimes that they are acting as benefactors to the race."

Dr. Charles F. Painter, dean of Tufts College Medical School, says:

"The poor equipment for present-day clinical teaching, or one which is so far disassociated with the school that it cannot be used without great waste of time, is a decided disadvantage to a medical school. The public, of course, is not in a position to realize the advantages of this arrangement, but is becoming more and more acquainted with the actual condition, and as laymen do become acquainted with it, they will unquestionably appreciate the advantage it is to them to have an institution that is thoroughly prepared to educate the doctors that are to practice in their midst."

Dr. J. Whitridge Williams, dean of the Medical Department of Johns Hopkins University, writes:

"After many years' acquaintance with hospitals, I have no hesitation in saying that the greatest good is not obtained, either from the point of view of the care of the patients or in the advancement in medicine, unless the hospital facilities are freely utilized by medical students. It has been my observation that in hospitals in which students are not admitted the medical work tends to become routine and casual in character, whereas when the patients are utilized for the instruction of students their instructor is on the qui vive and makes every effort to see that the most accurate diagnosis is made and the most appropriate treatment followed, as he knows that if he fails to do so the omission and error will be promptly detected by the students. Furthermore, the utilization of students in general hospital work is of the greatest possible benefit to the patients, as it enables many laborious examinations and investigations to be made which without them would require the services of a much larger resident staff. It goes without saying that at the present time no hospital can be advantageously conducted without the services of the highest type of trained students."

Dr. William Pepper, dean of the School of Medicine, University of Pennsylvania, says:

"The University of Pennsylvania recognized this fact, and in 1873 built on the campus the university hospital for the use of the medical school as well as for the benefit of the people of Philadelphia. This hospital was the first hospital erected in this country as an integral part of a medical school, and ever since organization, the staff of the hospital has been composed solely of members of the teaching staff. I do not see how anyone can have any other view than that all of this is as it should be. There is no doubt in the minds of any of us at the University of Pennsylvania that on account of this intimate relationship the patients receive better and more skillful care and attention than they can receive in a hospital unconnected with a first-class medical school. There can be no doubt that the students receive better instruction in the university hospital than they could receive in any other hospital in the city, and there is also no reason to doubt that the nurses receive a better course of instruction than they could receive in another hospital. I know that in Philadelphia this view is gradually spreading among the people at large. Personally, I believe that the time will come when every big hospital will want some sort of connection with a good medical school and will seek such connection."

Dr. Charles N. Meader, dean of the School of Medicine, University of Colorado, states:

"It is of course well recognized among the superintendents of teaching hospitals that the stimulus to careful work and more careful record-keeping on the part of the staff secured by the presence of an aggressive and intelligent student body, is an invaluable asset to the teaching hospital. From an economic standpoint alone, the opportunity of securing the services of a group of well-trained students without financial compensation to them should make special appeal. A further good, sufficient argument in itself, of which the force will become more and more apparent in the future, lies in the duty of a hospital to its community, state, and nation, not only to care for the sick of a day or of a year, but to do its share toward the efficient care of the sick of the future. However earnest and intelligent a student may be, he cannot become a thoroughly trained and effective physician by didactic work alone. Not merely some clinical work, but clinical work in abundance and under the best facilities during his third and fourth years, is essential to this result. And I should like to emphasize the importance, not only of his seeing many cases, but of his having ample opportunity to study them both through bedside observation and through the use of modern diagnostic methods and instruments. Such a program is expensive, but it must be met by all medical schools of this country. To meet it they must have the cooperation of all enlightened and progressive hospitals accessible to them."

To sum up the advantages of a teaching hospital, I should say that the greatest advantage is, first, to the patients, because of the complete equipment such a plant provides; second, to the attending men, who must keep to the front or be superseded; third, to the interns who are fortunate enough to secure an appointment; fourth, to the student body, which is allowed the freedom of the hospital; fifth, to the training school for nurses, which always has before it the examples of well-trained men doing careful work; sixth, to the surrounding community, which as a result has a higher standard of practicing physicians in its midst; seventh, to the physicians in the surrounding country, who are able to see in consultation and otherwise the best men in their respective specialties; eighth, to science, because in the teaching hospital new therapeutic and diagnostic methods can be studied by means of its trained clinicians and laboratory workers, which cannot be done in a non-teaching hospital, since the latter has neither the properly qualified staff nor the equipment. In other words, the advantages to the community are so great that all should

unite in its common support and no institution of this character ought to be embarrassed, for a single moment, for lack of funds. The wealthy men of this country and the foundations created by their wealth are realizing that efficiency in hospital work is as necessary as it is in a manufacturing business, and that the lowest per capita cost does not always mean the best run institution. Waste in everything should be discouraged, but money spent in teaching and study is potential energy being stored up for future use and is the best kind of preparedness for a community.

The organization of a teaching hospital cannot be loose or haphazard. The board of managers must be keen men, interested in the large affairs of life, and public-spirited enough to devote much of their time to the proper fulfillment of the trust imposed upon them.

The best method of organization is for the university to maintain its own hospital; then the control is always certain and the wards will ever be freely open to the teaching force. As this is not always possible, the arrangement of interlocking boards or gentlemen's agreements should be made, but in such a way as to insure permanency.

The superintendent and the principal of the nurses' training school should themselves have developed under the methods in vogue in teaching hospitals, so that they will readily grasp the point of view and needs of the teaching force, whether it be in the way of material to work with or of nurses to supervise special work and departments. This means that the superintendent of such an institution should be a physician who has enjoyed the widest opportunities himself, for it cannot be supposed that a man who has been a good accountant, a lawyer, a minister, or a hotel man, can develop the understanding and sympathy necessary for the proper administration of a hospital in conjunction with a medical school. The administrator who fails to take advantage of every opportunity for conferences with the professors or heads of the different teaching departments will soon find he is not in touch with the aims and cannot see the whole picture of which each department is a part.

The staff should have a continuous appointment and should be appointed only when holding the same position in the university. Each department head should have complete control of all the material for his work and be responsible for not only his own work, but that of any assistants he may see fit to introduce in subordinate positions as his aids. He should also be on the special committee composed of the various heads of main departments, the function of which committee it is to advise the board of trustees regarding policy and to pass upon the qualifications of those recommended for appointment to the hospital staff. Thus he will have authority enough to see that competent men who will cooperate in his department are appointed, excluding the men who are incompetent.

No hospital should attempt to affiliate with a university medical college as a teaching institution whose finances are in a poor condition. A large endowment or special gifts for specific purposes should be available, sufficient to allow maintenance of a clinic large enough for teaching. The ideal method is to have full-time men at the head of the different main departments with enough salaried full-time assistants so that the work can go on uninterruptedly.

The physical condition of the plant should be so arranged that there are enough wards for each department. Adjacent to the wards should be small clinical laboratories fitted up completely for the routine work and under the supervision of a technician specially trained for this work. The students during their third and fourth years under the supervision of departmental heads should have complete access to the patients in these wards. Should be responsible under supervision for the histories, physical examinations, and laboratory work, and should suggest treatment, following the cases from admission to discharge, filing their personal records in the records of the hospital, of which they become a permanent part, and in case the patient dies, writing up a complete report of the findings in the autopsy room and pathological laboratories. In addition to small clinical laboratories, there should be the larger laboratories for physiological chemistry, bacteriology, pathology, roentgenology, electrocardiography, etc., as well as the operating rooms to accommodate the different specialists.

The dispensary should be modern and absolutely under the control of the same departments in the medical school. Here also should be laboratories so equipped that certain clinical diagnosis work can be undertaken. If the laboratories are not near at hand, students fail to see the relation between physical diagnosis and laboratory work. Here, as in the hospital wards, the student body of the third-year classes should assist in dispensary routine and study the different cases under proper supervision. There should be rooms enough so that they can work either singly or in groups of two in preparing the histories, physical examinations, and suggestions for treatment of patients who come to the clinic.

The autopsy room should be well equipped and under the control of the pathologist. This is the place where the mistakes of diagnosis are clearly shown and where the student can see for himself what he has been more or less surmising, while following the case in the wards. In no other place can gross pathological conditions be so thoroughly impressed on the student mind.

There should be a library and record room in which are kept the standard books and periodicals and the completed records of cases treated in the institution, with desk room enough to encourage the students and interns to use them. The records should be accessible by carefully kept card indexes. These indexes should be as follows: a name index and a disease index compiled after some standard classification and properly cross-indexed for complications, etc. The case records should contain in detail a complete history of the case before admission, physical examination and notes during the hospital stay, together with all the data from the different laboratories.

In the foregoing I have tried to show that the student should be brought into close and active relationship with the patient. Not only should all hindrances be removed, but he should also be given as much responsibility as is possible. The clinics should furnish a variety of cases and not a superabundance of one to the detriment of the other. Therefore the number of cases treated in any hospital during the year is not a fair index of that institution's teaching ability. The same is true regarding the dispensary.

In the Albany Hospital the students in the third-year and fourth-year classes are given access to the wards and the dispensaries under the supervision of the men in charge of the service. While on the wards the students are required to wear white coats. If they have surgical appointments, the cases admitted are assigned to them, after which they take the history, make tentative diagnosis, make and record complete physical examination, demonstrate the cases to the other students under the supervision of the surgical chief, assist at the operation, and follow the cases to recovery and discharge, always being encouraged to suggest treatment. Their notes are looked over by the chief on his regular visits and criticized be-

fore the surgical class. The clinical laboratory work is also done by them, under supervision.

If they are assigned to the medical service, they have exactly the same intimate connection, and they answer certain emergency calls in company with the intern, who is responsible for the service, do the clinical laboratory work, demonstrate the cases to their classmates, submitting their own notes for criticism.

Thus you will see that the work done by the medical student in his third and fourth years is practically the same as that which was formerly done by the intern during the first three to six months of his service. When he enters the hospital as an intern he is already familiar with a great deal of the routine of an institution and much more valuable to himself and to the hospital than when not taught in this way. After the completion of the twelve or eighteen months' intern service, it is not unusual for these men to seek positions as residents, so that they can stay in the institution for a longer period.

They have become imbued with the university idea and methods, and are anxious to stay until they are better equipped to enter practice.

I am thoroughly in accord with the men whom I have quoted above and believe that every hospital should develop its teaching side to the fullest extent, if for no other reason than that the hospital may become a better hospital for having done so.

STANDARDIZATION WELL STARTED

General Committee Meeting in Washington Makes Plans in Detail—Hospitals to Get Strong Support

The general committee of twenty-five, appointed in connection with the program of the American College of Surgeons program for the standardization of hospitals, met in Washington on December 8, 9, and 10. Only about a dozen members of the committee were there, most of the other men being on active service with the army.

The meeting was a most enthusiastic one, and some very important work was done, the principal item of which was the completion of a questionnaire to go out to all the hospitals with a letter asking them to participate in the program of standardization. It was decided after much discussion that the questionnaire ought to be a very full and complete one, intended to elicit much information that will be highly useful to the hospitals themselves and framed in a way tending to lead up to the installation of methods and practices in the hospitals that will make it possible to draw some comparisons between individual institutions.

It is to be hoped that the hospitals will realize that this program of standardization is not to be in any sense hurtful to any hospital. The discussion on this point at the Washington meeting was most illuminating, and there was no difference of opinion among those present.

The purpose is to try to ascertain just what the hospitals are doing and to aid them, by suggestions and more material help where it can be given, to better their own conditions.

There are many boards of trustees and even medical staffs in our hospitals that are quite satisfied with the conditions in their institutions. There is nothing so demoralizing to an ambitious and competent superintendent as that attitude on the part of the staff or the board, and it is extremely difficult, when that is the case, for a superintendent to put into practice any new methods whatever or to install any improvements. The first effect of this standardization will be to support the superintendents in their demands for better things in their institutions.

Some important people in the government service attended the Washington meeting, the first session of which was presided over by Dr. Franklin Martin, chairman of the General Medical Board of the Council of National Defense.

After the morning session on Sunday, December 9, the members of the committee were invited to attend the meeting of the General Medical Board of the Council of National Defense, where they had the pleasure of meeting some members of the council, Admiral Braisted, Surgeon-General of the Navy, Surgeon-General Rupert Blue, of the Public Health Service, Acting Surgeon-General Birmingham of the Army, and their staffs. It was a splendid and most illuminating meeting that the members were enabled to attend.

The various committees that were charged with the completion of the questionnaire in its various parts worked hard for three days and nights. Some of the committees have not yet completed the details of their sections of the questionnaire, otherwise the questionnaire itself would be published in this number of THE MODERN HOSPITAL for the information of superintendents and trustees and staff members. It is to be published in our February number with a more detailed account of what the committee did and plans to do.

One of the best things the committee did was to secure the interest and attendance at the meeting of Dr. Frederick Hoffman, statistician of the Prudential Insurance Company of America, who has agreed to supervise the proper collection and arrangement of all the hospital data that is expected to come in. Dr. Hoffman addressed the committee at length on Saturday morning, and at the close of his address the committee felt that it had secured a powerful collaborator.

While in Washington the members of the committee were the guests of the Council of National Defense and were more than pleased with the recognition by the government authorities of the importance of the work it was doing.

The question, what we want our public health nurse taught, is not easily answered. We want the finished product to possess so many of the attributes of perfection that, if we are to deal with ordinary human nature, compromise will have to be accepted. All are familiar with the descriptions of the necessary virtues required by those anxious to find the right woman for some form of social work, and many can sympathize with the weary head worker of a Children's Aid Society, who replied to such a request, "Madam, if I could find the woman you describe I should marry her, not pass her on to you."—Mary S. Gardner, "Public Health Nursing."

The farmer wearing a long face entered the country drug store. "I've got something wrong with my stomach," he announced, "and I want you to give me something for it."

"All right," replied the apothecary, cheerfully, "what are your symptoms?"

"Every little while something seems to rise up and settle back, and then by-and-by it rises up and settles back again."

The druggist stroked his chin reflectively. "Look here," he said gravely, "you haven't gone and swallowed an elevator, have you?"—Ladies Home Journal.

Fig. 1. Home buildings of the Country Home for Convalescent Children at Prince Crossing, Ill.

THE COUNTRY HOME FOR CONVALESCENT CHILDREN*

Cure and Education of Crippled Children Successfully Undertaken by a Private Institution in Illinois

Several years ago the principal orthopedic surgeons in Chicago were asked what the greatest need was in connection with the work for crippled children. The unanimous reply was: a home in the country where children could be sent for convalescence after serious operations. Mrs. W. J. Chalmers undertook to raise the necessary funds, and, through generous subscriptions from Mr. J. Ogden Armour, Mrs. John W. Gates, Mr. George Griffin, Mr. James Patten, Mr. Julius Rosenwald, Mr. R. W. Sears, Mrs. Edward Morris, Mr. R. T. Crane II, Mrs. Howard Spalding, and others, a home accommodating forty children was made possible and was opened in July, 1911, at Prince Crossing, Ill., a station thirty-two miles from Chicago. An addition given by Mr. John G.

*This article has been prepared by a member of THE MODERN HOSPITAL editorial staff from data kindly furnished by Mr. W. J. Chalmers, of the advisory board of the Country Home for Convalescent Children, Dr. Charles A. Parker of the attending staff, and Miss Myra Beck, head nurse.

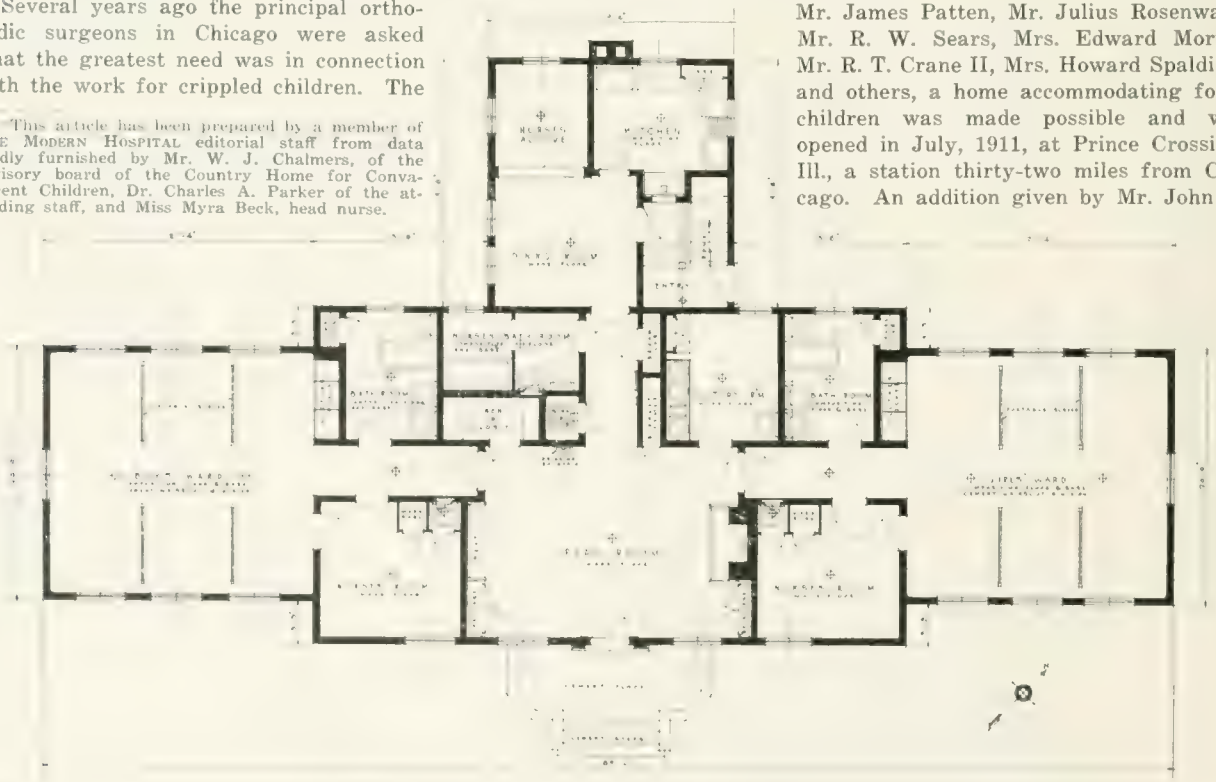


Fig. 2. Floor plan of the Lolita Armour Hospital building of the Country Home for Convalescent Children. Graham, Anderson, Probst, and White, architects.

Fig. 3. Outdoor ward for bed patients.

Shedd has since permitted the reception of seventy-five children. Miss Margaret Little is superintendent.

The home is affiliated with the Rush Medical College, which furnishes the orthopedic staff. It receives after operation children between the ages of 4 and 12 for an unlimited period of convalescence. In addition to free care from the best orthopedic surgeons and physicians, specialists for the eye, ear, nose and throat, and general practitioners, the children have the advantage of life in the open air and the sunshine. Nor is their education neglected meanwhile; a school has been established, under Miss Rebekah Lesem, with Miss Nina Tappe as assistant, with manual training and domestic science departments, and a kindergarten is soon to be added. Even the bed patients receive instruction. Although the instruction periods are of necessity short, many of the children keep abreast of the work in the public schools.

With the object of encouraging initiative, usually so lacking in institutions, as much responsibility as possible is thrown on the children themselves. Some are held responsible for making the beds; one of the older children assists in the teaching. The grounds are kept tidy by the children; in their hands is much of the discipline of the school, such as the dismissal of classes and responsibility for the appearance of the schoolroom. The open-shelf libraries are largely managed by the children, and so are the clubs which have been organized among them. Indeed, there is little or nothing of the typical repressed institutional child to be seen in these busy, eager, romping children, and one has to look from the smiling faces to the telltale crutches or braces in order to realize that these are indeed the unfortunate sufferers from most serious handicaps. Freedom and initiative, however, are not attained at the expense of discipline, wise supervision, rather, makes itself as efficient and unobtrusive as possible.

In the manual training department, the girls learn needlework, the younger ones learning the fundamental principles of sewing through making the necessary articles for a good-sized doll, doll's bed, and doll's table. The older ones, besides making such articles as linen towels with hemstitched or crocheted borders and children's bibs decorated with cross-stitched designs, help with the household sewing, hemming towels and table linens and doing darning and other mending. The manual training work of the boys takes the shape largely of the construction of toys—carts, toy animals, doll furniture and bed trays. A sale of articles made by both girls and boys is held annually, and 40 percent of the proceeds is given to the children. The last sale brought in receipts amounting to $1,900. Fifty of them have little bank accounts. This is an inspiration to them, but they are not permitted to over-

Fig. 4. Toys made by children at the Country home for Convalescent Children. These toys and other articles made by the children are sold and 40 percent of the proceeds is placed to their credit.

work. While the children are too young to be expected to support themselves when they leave the home, it is interesting to note that two of the former patients of the home are supporting themselves by the crafts they learned there. One young man has a private class in manual training, and one young woman supports herself by needlework.

One of the valuable educational features is the instruction given the children in neatness, cleanliness, and right living. Not to mention many of the details of care of the person and clothing which some of the children may never have learned at home, the constant emphasis on asepsis of dressings gives many of them an entirely new idea of the importance of cleanliness. With this idea in view, the dining tables have white table cloths; if any child soils the cloth at his place, a little square of white oilcloth is laid there until the cloth is changed.

As this is a home for convalescent children, no operative work is undertaken in the institution, but careful supervision is exercised over the children throughout their

Fig. 5. Some little rug-makers at the Country Home for Convalescent Children.

stay in the home by a staff of orthopedic surgeons, of which Dr. John Ridlon is the chief. Braces are supplied and kept in repair, plaster casts are changed, and various non-operative procedures are carried out according to the individual requirements. If further operative measures are indicated, the children are sent to some of the several Chicago hospitals that are always ready to receive them.

The plant includes a farm of 96 acres, twelve cows supplying the milk so much needed for patients of this class. Vegetables and fruits are grown in sufficient quantity not merely to supply the season's needs, but also to fill a storeroom with several thousand quarts of canned food. The buildings include, besides the main building with its wards, dormitories, dining room, school room, and play rooms, one for boys and one for girls—the latter now being constructed from funds subscribed by Miss Marjorie Ward and Miss Clara Cudahy, and both decorated with designs by Mrs. John A. Carpenter from children's stories—a little isolation hospital, the Thomas Beveridge Patten Contagious Hospital, the new Eliza Prentice Crane Manual Training School, a new laundry and power station, and the Lolita Armour Cottage, likewise new, where the children just brought from the city may be quarantined for three weeks to prevent the introduction of infection.

During 1916 the average per-capita cost per child was $1.04 a day, after charging into cost all repairs to house and farm insurance, salaries to staff, wages to help, tiling of farm, refrigerator repairs, and all other miscellaneous expenses.

The home is supported entirely by voluntary contributions, and is free to the patients. In several states—Minnesota, Nebraska, New York, and Massachusetts, for instance—the work of caring for and educating the convalescent crippled children has been undertaken by the state. In Illinois this particular class of work is done by this private charity alone, and Dr. Frank Billings has characterized this undertaking as "unique in its scope and results."

THE PROPER DISTRIBUTION OF HOSPITAL EXPENSES*

Importance of the Subject—Income Accounts—Distribution of Expense Accounts to Various Departments—Classification of Storeroom Supplies Essential

BY FRANK E. CHAPMAN, Superintendent of Mount Sinai Hospital, Cleveland, O.

The past few years have seen a very pronounced development, in practically every line of endeavor, of the idea of securing a more efficient performance through study. It has truly been the regime of the efficiency engineer. In order to produce this more efficient result, careful analyses have been made of practically every operation entering into production, to determine what motions are essential and what motions can be reduced or speeded up, either to increase the total production or to make it a better one. The basis of all of this study has been an accurate method of recording operations and movements and the comparison of such records with those of previous periods. The results obtained in a great many instances are almost unbelievable. As a specific illustration: a motion study in a manufacturing plant, conducted over a period of three years, increased the total production of that plant 42 percent and the individual earning per capita 38 percent, while it decreased the cost of production 10 percent, with a decrease in working hours from 54 to 48 hours per week. These reports were made in normal times. It can be assumed that such a study would be more valuable under abnormal conditions. This is to illustrate specifically what can be done in the commercial field. Does it pay? If it can be done in other lines of endeavor, it is reasonable to suppose it can be done to a greater or less extent in hospital administration.

The time has come when boards of trustees and the public are demanding a more efficient and economical operation of institutions. It is no longer a question of assumption as to what a given service may cost; they are demanding to know whether or not they can afford to offer certain services at a given price, or whether the actual cost is greater than the rate charged. To know these things, a proper system of accounting and recording is absolutely essential, and after that system has been installed and is in operation, it is most essential that the administrating officers intelligently study the results of that system and learn properly to interpret increases and decreases. It is not necessary that an elaborate set of books be opened; in fact, a too elaborate system is cumbersome and requires too much time to balance and check, and the results obtained are then secured so late for the period as to be of value only as a matter of statistics and not of study.

The bugbear of the average superintendent is the per capita cost. It is admitted that the cost per patient per day is not a fair comparison between different institu-

*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

tions, by reason of the fact that this cost per patient per day does not take into consideration the difference in services rendered as between one institution and another, but there does not seem to be any fairer comparison than this. If the time ever comes when hospital practice is standardized, then a fairer comparison can be made, as it will naturally follow that, with the standardization of hospital practice, the standardization of hospital accounts will result. Each individual hospital offers its own problems, but there is no good reason why a fairly uniform classification of accounts cannot be determined upon.

Let us first consider the income accounts. The title of this paper does not permit of any elaborate discussion of these, but some reference should be made to them in a discussion of the distribution of hospital performance. These accounts should be watched just as carefully as are the expense accounts, and an attempt should be made to analyze increases and decreases of the former as is done with the latter. Income accounts can be very readily divided under ten headings, as follows:

1. Board of patients.
2. Board of nurses.
3. Operating room.
4. Anesthesia.
5. Laboratory.
6. X-ray.
7. Drugs.
8. Out-patient.
9. Emergency service.
10. Miscellaneous.

It requires but little additional effort to segregate income in this manner. To these can be added donation accounts and such other accounts as may be considered a part of the operating income.

Now, as to expense accounts, it is self-evident that the larger the institution and more extensive the performance, the greater the number of subdivisions of accounts in order that the various operations may be more carefully scrutinized. A basic classification should be determined upon and established, and then as many different subdivisions of the general classification made as are necessary to analyze results properly. Below is given a division of fifteen general classifications of operating expense:

1. Administration.
2. Professional care of patients.
3. Nursing.
4. Surgical and drugs.
5. Anesthesia.
6. Laboratory.
7. X-ray.
8. Dietary.
9. Commissary.
10. Housekeeping.
11. Laundry.
12. Heat, light, power.
13. Maintenance and repair.
14. Out-patient.
15. Miscellaneous.

A very definite policy should be established as to what are to constitute charges to expense accounts. It is to be assumed that if there is sufficient interest in the financial performance of the institution to warrant the establishment of a proper system of distribution, that interest will demand that the expense accounts show a complete record of the expenditures in every detail. Expense accounts should show the gross amount expended in any given department. They should in no instance show the net expenditures as between the actual expenditure and receipt from endowment, from income, or from any other source. This is a point that should be definitely outlined in the accounting policy.

There are three different general methods of distributing hospital expense that seem to be in general use at this time.

1. The paying of all bills as they mature and charging the total amount to a general expense account.

2. The payment of all bills at maturity and charging direct into a classified expense account for the month in which the purchase is made.

3. The charging of all bills into stores account and the distribution of the expenses upon the basis of actual amount used during a given period.

Scheme 1 is of practically no value from the point of view of the superintendent. It is true it shows the total amount of money expended and is a basis for figuring the per capita cost, but it will not give the actual per capita cost for any given service for a given period.

Scheme 2 is hardly of greater value for the same reasons. To purchase hospital supplies economically, there are times when several months' supplies of different commodities must be bought, and it is not fair to charge into any given period's operation the total cost of supplies purchased, when, as a matter of fact, those supplies are not used, but are an asset to the institution and are held in store for future consumption.

Scheme 3 is, to my mind, the only equitable method of distributing hospital expense. This scheme necessitates classifications of the storeroom supplies into identically the same classifications as the financial accounts and the taking of inventory monthly. All commodities received during the month should be charged into the inventory accounts, and the difference between the inventory as of the first of one month, plus the receipts for that month, and the inventory as of the first of the following month, should represent the total expenditure for that particular classification for the month. The taking of this inventory is not the burdensome thing that one would suppose. By the proper distribution of commodities in the storeroom and the proper method of receipts and disbursements kept up daily, the actual financial inventory can be taken in eight hours in the average storeroom.

Of prime importance in a system of hospital disbursements is an absolute control of the distribution of supplies. Too much stress cannot be laid upon the importance of knowing definitely where every article goes to. This can be accomplished only by a proper system of requisitions, these requisitions to be properly checked and supervised by someone in authority. The promiscuous issuance of supplies without proper supervision results in more waste in hospital administration than any other one feature. The following is an outline of a system of distribution that has proved satisfactory with a very small amount of personal effort necessary to keep it in effect:

A definite weekly supply day is established for the entire institution, and all of the departments of the institution are instructed to gauge their requisitions for a week's supply only. Requisitions are assorted so that those for all surgical supplies, all housekeeping supplies, all dietary supplies are assembled. This is to facilitate charging in the storeroom. These requisitions are collected and brought to the superintendent's office the evening before the supply day. They are carefully scrutinized and approved.

These requisitions are then filled, the price of each

commodity affixed, and the total amount of the requisition carried on the bottom of the page. In the storeroom there is a specially ruled book with a sheet for every commodity in the storeroom, this being a loose-leaf book, each sheet being a perpetual inventory of the commodity in question. These sheets carry the purchase date, purchase order number, firm from which bought, remark column, quantity and price, column for amount on hand, column for the amount disbursed, and series of columns showing all of the important departments of the institution, such as each individual ward, main kitchen, diet kitchen, housekeeping, and laundry. To illustrate: Requisition No. 602, to Armour & Co., issued October 1, for 500 bars of laundry soap. In the "on hand" column this would show 500 bars of soap. On the 16th of the month Ward A received 4 bars, B 6 bars, housekeeping 24 bars, main kitchen 25 bars, or a total of 59. This total of 59 would be carried in the disbursed column, and subtracted from the amount on hand, leaving a balance on hand of 441, which would be your inventory at the end of this supply day. This system can be carried through for the entire month and the "on hand" column used as a basis for your inventory figure on the last day of the month, simply by multiplying bars on hand by the unit price of the bar, which is established on the line showing the purchase. Exception to the weekly supply day is made in the kitchen, as this department receives its supplies daily, but the same principle applies as in the other departments of the institution. In the kitchen there are a great many commodities that are not kept in the storeroom, but are charged direct. These supplies are received by the storeroom, however, and the record of their receipt and issuance is kept in the storeroom and not in the kitchen. This, of course, does not exclude issuance of special requisitions for emergency supplies, which can be obtained at any time.

In distributing expense as between the basic subdivisions, every effort should be made to disburse all items properly. Do not charge the total salary of an assistant superintendent to administrative expense when as a matter of fact a large proportion of his time is consumed in buying. Do not charge your total stationery account to administration. Medical forms, etc., are not truly an administrative expense. If you have an anesthesia account see to it that all drugs and supplies used in the giving of anesthetics are charged to this account. See that a full charge is made to the x-ray department for all drugs, electricity, etc., used. In other words, strive to make your classifications represent the actual cost of operating each department.

In the distribution of expense, from the superintendent's point of view the essential thing to know is the cost of each producing unit. The ward unit performance being the commodity dispensed by the hospital, it is the production cost of that unit that is desired, and any system of distribution must strive to show as nearly correctly as possible the actual cost of ward operation. Your administrative cost, your laundry cost, your cost of heat, light, and power are as much integral parts of the cost per patient on a given division as are the supplies used on that division. For purposes of record and account, such a distribution is not always feasible or desired, as the individual cost per unit is not of sufficient interest to a board of trustees to warrant such a classification. The board of trustees is primarily interested in knowing the total administrative cost, the total cost of handling the laundry, the total cost of drugs, etc., and not in knowing how much of this total each division consumes. This, however, is what the superintendent should primarily be interested in, and for this reason a separate and distinct classification should be kept by each superintendent.

General expense accounts, such as administrative, laundry, etc., should be divided as between the producing units on a per capita basis. Labor expended should be divided on the actual basis of the expenditure for the division. This can be accomplished very easily and quickly by a classification of your payroll each month. Supplies used should be charged direct to the division to which they are issued. This can be very easily determined by a total of your requisitions. The cost of food should be prorated on each division. The cost of x-ray service, laboratory service, operating room service, and kindred services should be divided either on a per capita basis or on a percentage of the total expense proportionate with the amount of work done. After this distribution has been made and as one of the reasons for making it, the results should be brought to the attention of those responsible for the expenditure. It is rather interesting to note the energy expended by various head nurses in an effort to bring their expenditures for a given classification below the expenditures of a similar division to their own. Very marked showings can be made in this manner if handled correctly. It is also interesting to call the attention of various divisions to comparative expenditures, calling attention at the same time to the comparative patient-day performance of their divisions. This is another means of securing cooperation of the personnel of the institution. Take them into your confidence and show them what it costs to run an individual unit, and there is not a question but that a greater effort will be made to get an economical operation.

Any system of cost distribution that is installed requires a very careful handling to establish in the minds of all the importance of accurate segregation of expenses, and, after the results have been obtained, in order that they may be of economical value to the institution, they must be studied carefully from every angle in order to obtain any results. Due consideration must be given to each classification, and it is advocated that a detailed explanation of increases and decreases be given for each account. Consideration must be taken of the number of patient days for the period as compared with previous periods. Increases in cost of foodstuffs, increases or decreases in cost of surgical supplies; in fact, every item entering into various performances should be considered. If these explanations are made, filed, and studied intelligently, during succeeding periods, it cannot help but react to produce a better administered institution from every point of view.

An Automatic Writing Appliance for Blind Soldiers

A patented automatic writing appliance for the blinded Canadian soldiers has been made available to the Military Hospitals Commission through the gift of an expatriated Canadian lady now living at Pasadena, Cal. The device, which was her own invention, and was patented in 1897, has been endorsed by the principal institutions for the blind in the United States, and commends itself instantly to any observer as an exceedingly simple yet practical help to the blind man using a pencil or pen. The object of the device is to enable the man to write in a straight line across the page.

Miss Edith Fergusson Black, the inventor, forwarded to the commission a sample of the article and the fifteen jigs, dies, and tools necessary to manufacture others.—*Hospital World*, Toronto, Canada.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
728 Seventeenth Street, N. W., Washington, D. C.
WILLIAM H. WALSH, M. D., Secretary.

A Communication From the War Service Committee

The following letter, under date of December 10, has been received from the war service committee of the American Hospital Association, Dr. S. S. Goldwater, chairman:

"To the Members of the American Hospital Association:

"In a recent address, Secretary Houston declared that in order to win the war it was necessary for the United States to find a formula for maximum national efficiency. In Secretary Houston's opinion, such a formula was to be found in *the perfect coordination of governmental and private resources.* It is in this sense that the war service committee of the American Hospital Association is endeavoring to carry out its mandate, namely, 'to inform itself of all military facts and requirements in which hospitals may be concerned, to be in readiness to consult with military authorities in relation thereto, and to assist wherever hospital service may be of value to the country.'

"At the first meeting of the committee, which was held in New York city on Wednesday, November 21, the following resolution was adopted:

"'INTERN SERVICE

"'The committee maintains that the efficiency of hospitals and the adequate preparation of recent graduates in medicine for clinical practice, not only among the civilian population, but in the army, depends in large part upon the maintenance by civilian hospitals of an adequate system of clinical training. In the opinion of the committee, it is inadvisable for hospitals having a graduate intern service of eighteen, twenty-one, or twenty-four months' duration to abandon such service, in order to substitute an ungraded or improperly graded service of only twelve months' duration.'

"The work of the war service committee has been facilitated by the designation of its chairman as chairman of the hospital committee of the General Medical Board of the Council of National Defense.

"*The most pressing problem which faces the war service committee is that of maintaining in the hospitals of the country a sufficient staff of interns—sufficient both in number and in quality of training.* The new Selective Service Regulations provide for the voluntary enlistment of interns in the Enlisted Medical Reserve Corps, subject to such regulations as the Surgeon-General may prescribe. As the members of the association are aware, the regulations promulgated by the Surgeon-General provide that interns so enlisted and such others as hold commissions in the Medical Officers' Reserve Corps may continue in the service of hospitals for the purpose of completing internships which terminate not later than July 31 of the year following graduation, and no longer. *The strict enforcement of this provision would compel the hospitals to forego the services of all advanced interns and residents of draft age.*

"It is hardly necessary to point out the disastrous consequence of thus destroying at a single blow the whole system of graded house-staff organization. Protest, however, is unjustified and will be without result if the services of these men are required by the army. *The only hope of relief is in seeing that the army's needs are so fully supplied from other sources that hospital interns and residents, whether appointed for twelve months or longer, may be permitted to complete their hospital contracts and incidentally to obtain a professional education which will enhance their value as army officers.*

"The war service committee of the American Hospital Association therefore appeals to the hospitals of the country to bestir themselves. The required number of medical officers for the army is not yet in sight. The best possible material for army purposes consists of hospital-trained men, either of draft age or of the years just beyond. These men have been prepared by the hospitals. In large numbers they have flocked to the army; but more, many more such men are needed. Once in the army, men so trained will find advancement rapid. By coming forward now, these men will confer a service on their country, on the army, and on the hospitals with which they are affiliated. And they will come forward cheerfully if it is first demonstrated to them that they are not asked to take the place of slackers. Therefore, *the first thing the hospitals must do is to have every intern now in service apply for a medical officer's commission.* If the interns will put themselves in General Gorgas' hands, they and their hospitals will be treated fairly.

"The war service committee urges every hospital in the country to organize a local war service committee, for the guidance of which the following program is presented:

"First. See that every intern applies immediately for a reserve officer's commission.

"Second. Make a complete list of the graduates of the hospital from 1900 to 1917, inclusive.

"Third. Ascertain how many of these men have secured or have applied for commissions in the Medical Officers' Reserve Corps.

"Fourth. Appeal to the remainder to make application without delay.

"Fifth. Keep a record of the results, and make a report from time to time to the war service committee of the American Hospital Association, 728 Seventeenth Street, N. W., Washington, D. C.

"The importance of these measures is indicated in a letter from the Surgeon-General's office, dated November 30, which reads in part as follows:

"'These regulations [i. e., those referring to deferred military duty of interns under the Selective Service Law] do not mean that every intern must necessarily be called to active duty just as soon as he finishes one year of hospital service. *The number called will depend upon the number of vacancies to be filled or planned for.*'

"The immediate need is for 5,000 hospital-trained men under 40 years of age. The American Hospital Association must secure these men. ORGANIZE YOUR WAR SERVICE COMMITTEE THIS WEEK, and send the name of its chairman to the undersigned.

"WAR SERVICE COMMITTEE, AMERICAN HOSPITAL ASSOCIATION.

"S. S. Goldwater, M. D., Chairman.
"Richard P. Borden, Secretary.
"Daniel D. Test.
"A. R. Warner, M. D.
"W. A. White, M. D."

Meeting of War Service Committee

A meeting of the war service committee of the American Hospital Association was held in New York City on Wednesday, November 21. The war service committee is a national committee which has been instructed by the

American Hospital Association "to inform itself of all military facts and requirements in which hospitals may be concerned, to be in readiness to consult with military authorities in relation thereto, and to assist wherever hospital service may be of value to the country." The committee has established headquarters in Washington, which will be in charge of the secretary, Mr. Richard P. Borden, of Fall River, Mass.

The following statement has been issued by Dr. S. S. Goldwater, acting as chairman:

"From such information as the members of the war service committee have thus far been able to gather, the committee infers that it is the policy of the army to ignore existing hospital facilities in its preparation for the care of invalided men. It would be wiser, in the opinion of the committee, to formulate a program based upon the principle that existing medical institutions, including hospitals and sanatoriums, should be utilized wherever and whenever they are capable of rendering the required service. The unnecessary duplication of hospital plant and organization appears to the committee to be deplorable at a time when the nation should husband its resources in order to increase its military and national efficiency.

"The ideas of the war service committee on this subject are practically the same as those of the British Ministry of Pensions, which is responsible for the medical treatment of disabled men who have been discharged from the British Army. In a statement made to the British Hospitals Association on October 19, 1917, Mr. Horne, representing the pensions ministry, said that the ministry 'had no intention of setting up in various parts of the country institutions which would compete with established voluntary hospitals. They had in certain instances provided institutions of which there was a dearth, such as those for neurasthenia, tuberculosis, and epilepsy; generally, the accommodation required was provided by enlarging existing institutions.'

"The committee has been unable to learn of any government plan for the care of discharged soldiers who may still require ambulant medical treatment. In this connection, it might be advantageous to consult recent orders of the British Army Council in relation to the handling of two categories of patients: first, soldiers who at the time of their discharge require further treatment; second, soldiers who at some time after their discharge are found to require further treatment. The instructions in question apply 'to those suitable for treatment as out-patients in hospitals.'

"In order to facilitate cooperation between the army and civilian hospitals, the committee suggests the organization of an auxiliary medical corps for home service. This corps should be composed of physicians and surgeons who are ineligible for active military duty, and should be made up, in the first instance, of men holding hospital appointments.

"The committee maintains that the efficiency of hospitals and the adequate preparation of recent graduates in medicine for clinical practice, not only among the civilian population, but in the army, depends in large part upon the maintenance by civilian hospitals of an adequate system of clinical training. In the opinion of the committee, it is inadvisable for hospitals having a graduated intern service of eighteen, twenty-one, or twenty-four months' duration to abandon such service, in order to substitute an ungraded or improperly graded service of only twelve months' duration."

The chairman has been authorized to present the views of the American Hospital Association to the military authorities through the general medical board of the Council of National Defense, or otherwise.

Additional Comments on Committees

The following committees, in addition to those named and commented on in November, have been or are to be appointed:

COMMITTEE ON DEVELOPMENT OF THE ASSOCIATION

A committee of similar name and function has been actively engaged for years, and the present development of the association may be said to represent its labors. There remains much to be accomplished, and this committee will be expected to render a report upon its studies and conclusions. We desire to enlarge our membership to 10,000 active members. How is the best way to do it? We desire to increase our utility to the membership. In what way may the association best benefit its members? We should have more trustees in the association! How shall we get them? These questions scratch the surface and will open up vistas of endless problems to the distinguished members of the committees selected by the president to mold our future progress.

The report of this committee will be read before a general session of the association and then referred to the business meeting for serious consideration and such action as may be deemed advisable.

COMMITTEE TO COOPERATE WITH THE MILITARY SERVICE

This committee has been appointed by the board of trustees, and, in addition to aiding and cooperating with the committee on preparedness, this new committee will form a connecting link between the association and the Council of National Defense and the office of the Surgeon-Generals of the Army, the Navy, and the U. S. Public Health Service.

The chairman of this committee has been appointed by the trustees as the representative of the American Hospital Association upon the medical section, Council of National Defense, and by virtue of this office he will be enabled to confer with these officials upon all matters affecting hospitals, but will express before that body the point of view of the civil hospitals of the country.

This committee is authorized to take whatever steps it may deem expedient for the accomplishment of its objects, and may call upon the treasury for such funds as may be required, not to exceed, however, the appropriation for the purpose allotted by the trustees.

Nurses for the Insane in Sweden and Denmark

The following is extracted from an article by Dr. H. Arnesen in the *Medicinsk Revue* of Bergen, Norway:

In Sweden there is a good supply of nurses for the insane, though the salaries are not very large. All hospitals have erected dwelling houses for the married nurses on the hospital grounds. In some cases each family has its own house; in other hospitals as many as four families live in one building. The Swedish nurses for the insane are organized, forming an association covering the whole state. Each hospital has a hall where the nurses meet and spend their leisure time. The nurses' association also publishes a monthly journal called "Humanitet." In Denmark the condition of the nurses at the four old state hospitals was regulated by law in 1911. It was required that a certain percentage of the nurses shall be specially trained for this service. The newly established hospital at Nykobing has erected a number of neat dwelling houses for married nurses; the older hospitals have so far not provided dwellings for the nurses.

A youngster, after having had her temperature taken, inquired if she was very sick. The nurse said: "No, dear; your temperature is only 100." The child clapped her hands together and exclaimed: "Now, I can have the quarter papa promised he would give me if I could get 100 in anything."—The Bambino, Children's Hospital, Columbus, O.

THE USE OF A TENT IN TREATING ANTERIOR POLIOMYELITIS

Further Observation on the Methods Used at Fordham Hospital—Benefits of Fresh Air and Exercise Added to Treatment

BY SAMUEL BOORSTEIN, M. D., Chief of Orthopedic Department Fordham Hospital Out-Patient Department, New York.

There appeared in the May number of THE MODERN HOSPITAL a description of a tent which we have been using at Fordham Hospital for treating the children afflicted with anterior poliomyelitis. One paragraph in that article read as follows:

Fig. 1. One end of the tent, showing the children receiving sun treatment (August, 1917).

"The advantage of such a tent in summer is obvious. The children may play on the grass until time for their treatments. These cripples are usually confined to their rooms and do not get enough fresh air, either because their mothers are afraid to have anyone know of the children's deformities or because they are too busy to accompany the children. Thus, when the children are brought to the clinic, they enjoy the fresh air for two or three hours. In summer we intend to have these children dressed in tights only and have them sit on the grass or on a sheet of tarpaulin and have their limbs warmed up by the sun; they will afterward be called for treatment. The tent will be uncovered on all sides. We cannot tell as yet how it will work, but it sounds plausible."

Now that the summer has passed it may interest the readers to know the exact results of the season's work. The pictures appended here are so clear that no explanations are necessary. One can easily see that the children are lying and roaming on the grass and getting plenty of fresh air, which some of them probably miss at their homes. They have full freedom to play and walk on the grass instead of being kept in a crowded room. The mothers are training them to walk either on the walking board or on the grass. The tent is open on all sides, and an electric fan helps cool the warm atmosphere within. The children are inside the tent only during the treatment. Before the treatment they are outside, naked and exposed to the sun. (Figs. 1 and 2.)

Fig. 3. Inside of tent during administration of treatments (August, 1917).

The effect of the combination of the sun treatment, the outdoor exercises, and the orthopedic treatment was excellent, and we feel certain that such inexpensive arrangement offers the best facilities for treating such young children, especially when they are afflicted with a disease which deprives them of partaking in the ordinary outdoor exercises.

Fig. 2. Group of children who are patients in the hospital (August, 1917).

During the coming winter we intend to keep the children outside after the treatments. We are going to erect a playground near the tent so that while exercising in the fresh air they may not run the risk of catching cold, and at the same time they have some enjoyment.

I wish to express my sincere thanks to Miss H. Malmgren, superintendent of the hospital, for her devoted attention to the outdoor treatment of these children and for arranging all facilities for the use of the grass on the lawn.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH.
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

The Eight-Hour Day Applied to Hospitals

BY MARY E. LEWIS, Superintendent German Hospital, Chicago.

Believing, from the trend of the times, that it was only a question of a few years at the most when the eight-hour day for women would become a law, and, wishing to try out and perfect a system before it became a necessity, a year ago this last July we began to operate our entire hospital on an eight-hour system. Prior to this we had gone over the plan from every angle, and had solved the difficulties one by one as they presented themselves, as nearly as it was possible to do without an actual trial. We found, on putting the system to work, that only a few things needed to be adjusted, and these were easily disposed of. What seemed to be the greatest difficulty was the arranging of classes so that all could attend; but even this proved a simple matter when thought out thoroughly.

I had found out, when I began the study of the eight-hour system, that, if I divided the day into three shifts, relieving all of the nurses on the floor at once, it would take many more nurses to do the work than it had taken by the old plan. I was also afraid that, in taking all of the nurses from the floors at once, something of importance would be overlooked. This was apt to be especially true in the middle of the afternoon, when the treatments and medicines for the day had not all been given, this being also the time of day when most of the new patients arrive. After some time I worked out the following plan of four groups of nurses working eight hours each, so arranged that the shifts lapped:

First shift, coming on duty after breakfast at 7:15, with half an hour off for dinner, 12 to 12:30, going off duty at 3:45 p. m.

Second shift, coming on duty at 8:30 a. m., going to dinner at 12:30, then off duty until 3:30 p. m., when they again report and work until 7:30 p. m., or until 8 if necessary, which is rarely the case.

Third shift, coming on duty at 3 p. m., going to supper at 5:30, and going off duty at 11:30 p. m.

Fourth shift, coming on duty at 11:30 p. m., after eating a hot dinner served to them at 11 p. m., getting off at 7:30 a. m.

This arrangement brings the most of the nurses on duty at the ends of the day, at the time when the baths and treatments are given and the trays are served.

The night nurses, who have always been a source of anxiety to superintendents of hospitals, never wear out or break down, for the reason that the hard part of the night is gone and the patients nearly all asleep when they come on duty. They will have an occasional bell and the very sick patients and the records, but that is all until the early morning rush.

Every one who has ever been a nurse can remember the way the bells would begin to ring, almost before you had received your night report, and from that time until 11:30 and sometimes later you were running as hard as you could, doing two or three things at once. The last drink, the medicine, some extra covers, the window raised to just the right height, the screens and pillows adjusted, a thousand and one things, until at last the lights dimmed, the floor quiet, out of breath and tired you went hastily to snatch a bite to eat and hurry back to your record-making, watching the minutes so that you would be ready for the last grand rush of basins, bedpans, specimens, and treatments in the early morning.

Under this eight-hour system the night nurse comes on after having had a good warm dinner with leisure to eat it, to find her house quiet. She has time to make the records for the next day, and to do them well, before the early morning rush. We have had no breaking down of night nurses in the last year and a quarter.

Aside from the relief of overwork for the night nurse, I will briefly enumerate the advantages which we have found in the eight-hour system as we operate it:

1. It takes very few more nurses than it does to run with the twelve-hour day, two hours off duty, with half days and extra hours on Sunday. At eight hours a day each nurse works fifty-six hours a week. The old way she worked seventy hours with one-half day and two extra hours off on Sunday, seven hours deducted from seventy leaving sixty-three, or seven more hours a week or one more hour a day than under our system. This is partly made up by the nurses not going off and coming back on duty, but working eight consecutive hours, which saves time.

2. The head nurses do not waste time solving that ever-recurring problem of hours and half days off.

3. If there is any reason why the nurse needs to be absent from the hospital at a given time, as for a dentist engagement, or if her family are to be in the city over night, her shift can be changed with someone's else on her floor, so that she can have the morning or evening as the case may be, and the floor work will not be disturbed in the least.

4. The hospital still has left, of each nurse's time, two hours that rightfully belong to it under the present law, that can be used in an extra emergency.

5. Last but not least by any means is the advantage to be gained by the flexibility of the system. If any given day it is necessary to have more nurses at some other time than the usual schedule shows, they can be moved along to come on earlier or later, as the case may be, either singly or in groups, to cover the time they are needed, without in any way disturbing the routine of the hospital.

The class work can be arranged by having advanced and beginning classes, two of each at different times of the day, so that all can attend. Where there are only one or two who cannot attend at a given hour, they can be relieved from another shift for the class hour without any trouble.

In conclusion, I wish to state that we would not go back to the old way for any reason that has ever been presented to us. The nurses are satisfied; they have sixteen hours a day to sleep, eat, rest, study, and exercise. We have less sickness. The nurses make a better average in their class work. Fewer leave training, and none break down.

The Teaching Problem in the Small School

BY KATHARINE INK, R. N., New York.

An article by Miss Nutting in the *Teachers College Record* for March, 1917, sets forth, in a clear and convincing fashion, the problems and the opportunities confronting the nursing world at the present day. It is encouraging that the teaching of nurses has reached the point of being considered a problem, since the work they are called upon to do is becoming more complicated and more varied and specialized day by day. Hospital trustees are realizing that the classroom and the laboratory are fundamental parts of the equipment, and that an overworked superintendent of nurses, whose chief duty is administration, cannot be expected to prepare lessons and conduct classes as a side issue—and a side issue it has, unfortunately, often been.

The war has increased the difficulty, for many of the most efficient women in executive and teaching positions have gone to the front. They are needed there, to be sure, but the problem of carrying on the school is made more acute, and a solution for some of the difficulties must be found, if pupils are to be prepared to fill these vacancies later and to take the place waiting for the well-trained woman.

Some of us are wondering if the visiting instructor may not find her place here, as the traveling sophist did in the old Greek days during a transition period. The interest in the teaching problem was certainly demonstrated at the convention of the three national nursing organizations in Philadelphia, when a round table was held to discuss various phases of the work of the visiting instructor. We supposed the meeting would be rather a small one; but, instead, the people poured into the junior cotillion room, until it was filled to overflowing, and many of the audience stood during the entire hour—certainly a test of this interest.

When I went to Teachers College three years ago to prepare for this work, it seemed uncertain how things would work out, and whether there would be sufficient demand for a visiting instructor to bring in bread and butter. However, the bread has come and also some butter and, aside from that, it has proved a most interesting and satisfying work. It brings one in contact with a variety of schools and many types of students. Some of them are college women, with the advantage which that training gives, and some of them have had little or no background for scientific work. Yet the interest and enthusiasm are unfailing, in spite of long hours and great fatigue, and it seems to me that such a wonderful and precious thing should be cultivated and not lost to the world. This lack of uniformity in preliminary education naturally complicates the problem of selection of material to be given.

The work with the graduate students has been most interesting and gratifying, for they were, in a way, a selected group, coming from schools all over the country. Many of them came particularly for the theory, which they realized, when it was too late, had not been given them by their own schools. Some of them found that, after giving two or three years of hard work, they were in no way prepared to meet the complicated problems in the modern nursing world, and had to take some special course to bring them up to the standard and make it possible to take the state board examinations.

An instructor should not be discouraged if the conditions seem hopeless, for they never are; nor should one refuse to attempt to teach a certain subject because the equipment is a minus quantity. Dr. Osler says that one of his most satisfactory classes in histology in the early days was conducted in the cloak room with the microscope on the window-ledge.

When I started my teaching a year ago, I was asked by one superintendent if I would give a course in chemistry. It had never been given in that school, and she felt, quite rightly, that it was of fundamental importance, if the students were to grasp the other sciences. Then we looked about for a place to give the course. There was no classroom, but there was a board room, which was used for lectures. You can always depend on there being a board room, where the powers that be meet once a month and sit about a large mahogany table and discuss the affairs of the nation. The rug and the aforesaid mahogany table precluded the possibility of doing chemistry there, but adjoining the board room was a lavatory, about 6 feet by 4, with stationary washstand, cupboard, a gas jet, where the Bunsen burner could be attached, and one window, and there the demonstrations took place quite successfully, after the lecture was given in the board room. One young miss handed in her experiments marked "Lavatory Notes," which statement I suppose I had no right to correct. This year the class is too large to use the lavatory, so the demonstration table has been moved across the threshold into the sacred precinct, a discreet distance from the rug, and the rubber tubing has been pieced out so it will reach—and there the demonstrations go on. We consider it only an indication of the way things will grow, until the new hospital, with a large, well-equipped modern laboratory gladdens our hearts.

It is difficult, in many places, to get the equipment necessary to illustrate the work, but quite satisfactory charts may be made and carried about in a leather case, made like a music-roll, with a handle at the top like a golf bag. Tag-board or architects' paper may be used, and India ink or colored pencils make the drawings clearer. It is possible to make enlarged copies of various illustrations, particularly in physiology, by using the pantograph, a simple little device costing 25 cents. All the directions for enlarging the drawing any number of times are given with it.

I wish to speak, too, about the help which has been so freely given by the New York Public Library. In the Columbus branch, near one of the hospitals where I taught last year, they gave us several shelves at the back of the reading room, where reference books were collected for us, and a special table was provided. Students could go there to look up material for papers, which they wrote on various topics in hygiene and municipal sanitation, history of nursing, and physiology.

Let us hope that more nurses who are interested in teaching may prepare themselves for the work. There is a long list of hospitals needing full-time instructors, and not enough women to send to them. And the call is also coming from the small hospitals, wanting a part-time instructor for certain subjects. These hospital schools cannot expect to get an instructor at a moment's notice, if they do not encourage some of their students to go to Teachers College or some other place and get the preparation. In some places scholarships have been established by the hospital, or the alumnae association has made it possible for promising graduates to take the course.

The nurses in the Town and Country Nursing Service of the Red Cross often cover their territory on horseback or muleback, as the case may be, or, if the roads permit, they use a Ford car. One of the nurses who has been doing the follow-up work with the poliomyelitis cases, in connection with the New York State Board of Health, has one-eighth of the area of the state up in the Adirondack

region, and goes from clinic to clinic in her car. Why might not the teaching be done in the same way? If two or three small schools arranged their curriculums so that the work paralleled, thus reducing the amount of preparation necessary, it would be possible to have the instructor spend two days a week in each school, and give the theoretical subjects. This would also reduce the expense for each school. The time spent out of doors going from place to place is not a waste of time, but is better than living in an institution and being too busy to go out for regular exercise, even though a resident instructor may be more successful financially.

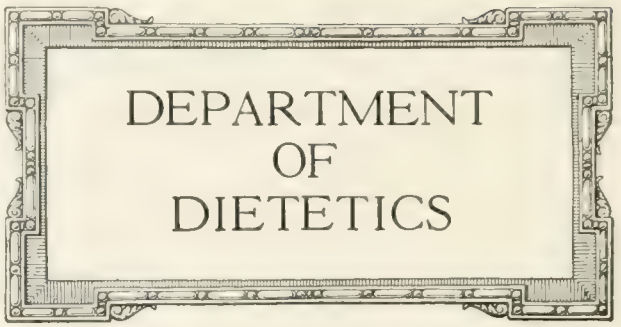
That the interest in nursing is very great, and that better-prepared women are being attracted to the profession, is amply attested by the fact that there were about 800 applications in three months this summer to a well-known school which has recently established closer relationship with a great university.

The interest is great; the necessity for well-educated, well-trained women has never been so pressing. Let us, then, make every effort to improve and build up the schools by giving these eager young students the well-rounded training which they will need to carry on the work which will confront them during this most interesting period in the world's history.

Catholic Hospital Association Cooperating in the Standardization of Hospitals

The executive board of the Catholic Hospital Association, which is cooperating with the American Medical Association, and the American Hospital Association in the movement for the standardization of hospitals, has issued an announcement on the subject to the Catholic hospitals of the United States and Canada. After discussing the letter and questionnaire to be sent to each hospital and the rating to be awarded after study of the hospital, the announcement continues:

"The Catholic Hospital Association was organized on the sincere belief that, in the interests of the general good, there was a need for it. There are at least 522 Catholic hospitals in the United States and 81 in Canada. These institutions assume the responsibility of caring for thousands upon thousands of citizens. These patients have a right to the best service within reason, but such service is only possible where the standard of the hospital is consistently high. To aid in attaining that standard has been the aim of this association. Already two conventions have been held, with good results and increasing success. The third convention was to have taken place in Chicago during the past summer. It was omitted because of national conditions. The subject of that convention was to have been the standardization of hospitals. . . . Realizing the very great number of patients treated by Catholic hospitals annually, and recognizing the importance of the work of this association, the leaders of the national movement have appointed our president, the Rev. C. B. Moulinier, S. J., Regent of Marquette Medical School, to the following positions: (1) National visitor of hospitals, (2) member of the national committee for hospital standardization, which meets in Washington, D. C., on the 8th and 9th of this month. At this meeting the leading medical minds of the United States will be assembled to discuss the circular letter, questionnaire, and other matters regarding the standardization of hospitals. It is confidently hoped that every Catholic hospital will cooperate promptly and thoroughly in this national movement, viewing its cooperation not only as a duty to its patients, but also as an aid to the general progress of medical work."



Conducted by MISS LULU GRAVES,
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The Standardization of the Work and Training of the Dietitian

BY RENA S. ECKMAN, Former Dietitian of the Massachusetts General Hospital, Boston, Mass., now of Teachers College, New York City.

While the work of standardization of hospitals goes on, and all progressive institutions are stimulated to renewed efforts toward greater efficiency, it behooves certain other organizations and groups of individuals to investigate their own status, methods, and working conditions and take vantage of a broader view point.

Among these may be mentioned hospital authorities who are employing dietitians, training schools which every year are sending young dietitians into the hospital field. dietitians who are already in active service, and dietitians who are seeking employment. All of these must add individual and collective effort toward the standardization problem, not only concerning the training of the dietitian for the work required of her in a hospital of a certain type, but also to a reasonable adjustment of her duties, in order that she may have time for the study and investigation necessary to the development of her own department.

Within my memory an association of educators of the youth of this country, devoted an entire half-day session of that body to a debate in which strong dissenting voices emphatically declared that special training for teachers was of no advantage whatever, and that normal schools turned out inefficient and superficial workers who obtained no better results in teaching, and, in general, were poorer disciplinarians than teachers who had spent no time in pedagogical training.

Nevertheless, training schools for teachers have multiplied and normal schools still teach teachers to teach. They give to them academic and professional instruction, provide for them practice classes, supervise their methods of handling pupils and criticise their results. Educational methods of today are not to be compared with those of the "lickin' and larnin'" era, and although the perfect teacher has not been evolved, the results thus far have proved so beneficial that nowadays a would-be teacher must present satisfactory credentials showing special training and fitness before she can take her place among educators.

Many years ago a certain well-known hospital found women knocking at its doors with the request and plea that they be permitted to aid in the care of the sick. But grave doubts were entertained as to the use that could be made of hospital women nurses. It was feared that they would not "know their place," that the doctor's orders and directions would not be respected, and that many dire results would follow if women were permitted to give their assistance as nurses. But finally the concession was made

that women nurses might be employed in that isolated department set aside for "foul diseases," and there they proved their usefulness not only to the patients, but also to the physicians, the surgeons, and the institution. Since that time obstructions to their progress have gradually been removed, often hewn away as by chisel against rock; but no one in this day doubts the usefulness of a trained nurse or that her work is indispensible to the hospital and to humanity.

And now the dietitian has entered the hospital, and as there is nothing radically new under the sun, she must run the gauntlet of criticism and find her place, not always by paths of peace.

Some physicians of high rank have stated that they want no brains in the kitchen. Others have said that the dietitian has already proved herself incapable of managing a department. The old-time practical housekeeper or stewardess sees in the dietitian only an individual who may usurp some of her privileges and detract from her glorious reign. It often happens that even those who have already obtained a place in the sun by long and laborious striving feel it incumbent upon themselves to make the next aspirant work just as hard as they did to arrive, and, if no natural difficulties occur that seem large enough, do not hesitate to create some for the spectacular effect produced and the light and shade which are thus added to the symphony of hospital life.

But the dietitian has already become a necessity to the hospital. By no means is her training perfect, just as the perfect teacher or the perfect nurse has never yet been evolved.

It is to the dietitians themselves, however, that the great call comes to turn their observation inward and note what their training has been, what the situation now demands, and how they are to measure up to the present-day requirements of scientific feeding.

Dietitians do not need to usurp the duties of anyone else and cause a dangerous division of responsibilities. The breadth of expansion in their own department is such that assistance should gravitate to the dietary department rather than that the dietitian should go over to the nursing or housekeeping department and take away responsibility from them.

It cannot as yet be said that the profession, occupation, calling, or business of being a dietitian has any specific meaning to all who use the term in nomenclature of an individual who has some dealings with the dietary department of a hospital.

Almost every state in the union has in its universities and in many minor educational institutions well-organized departments of household science or practical arts. The curriculum arranges courses calculated to give instruction in cooking of various kinds and varieties; courses calculated to train teachers to teach cooking; courses in chemistry of food, biological chemistry, diet in health and disease; and, last, but not least, general and special problems of administration are considered and each subject is treated in the most concrete and practical way possible.

But whether they have spent one year or many years in preparing themselves academically and professionally along these lines, women have entered hospitals and are called dietitians. Some schools have definitely tried to divert their graduates from hospital work in order to spare them the experience of excessively long hours and shoals of difficulties too numerous to mention. Other schools consider one year ample time in which to train a hospital dietitian, and as a proof point with pride to the fact that the nurses whom these dietitians have trained never fail to pass the examination in dietetics required for state registration.

And still women with meager training go on entering hospitals as trained workers and the name of "dietitian" loses ever and anon some of its magical sound—for wherefore? Need we state why?

The hospital dietitian, whatever her training may have been, has in a sense had her own place in the hospital to prepare—but mark the conditions that have aided or handicapped her in making the place a desirable one. She could fit into a certain niche, teach a few lessons in invalid cookery, do work in supervision of housekeeping, and in no case have we heard of her having undue leisure time. But the problem of feeding patients with any bearing upon their metabolic processes, or the knowledge wherein the daily work of the diet kitchen contributed to the relief and convalescence of a large percentage of the medical cases was not hers to aspire to or question. Her place was in the back of the institution, her domain the kitchen, her office a place in a drafty hall or perchance in a noisy corner of the kitchen, with railways under her window and the clatter of machinery near by. For does not that go with the job, and should not a dietitian's brains adjust themselves to all the operative conditions of the department even as all other heads of departments do? But *do they?*

Whatever the class room equipment and whatever the time allowed for instruction in invalid cookery and dietetics, the fact remains that nurses already have so many different phases of work to master that foods and cookery seem to them one of the least important. And these nurses, with the limited time allotted to them by the hospital routine in which to study the theory and practice of dietetics, are held responsible for the care and feeding of all cases within the hospital walls. Hence the necessity for feeding by rule and the evolution of "type diets." Whether or not the individual patient enjoys the food or its form of presentation does not matter, and he may take his food or not, as he chooses. If he is so ill that he is indifferent, his stay in the hospital is either cut short by a speedy decline or else is very much lengthened by a tardy convalescence.

At this point there is great need for cooperation between the dietitian and the nursing department as well as between the dietitian and physician. Even when graduate nurses are employed, there is still great good to be gained by conference.

In these times there is so much to be learned about food and feeding that, as has been stated by others, it is almost impossible to keep up with the subject-matter found each month in the scientific journals. What can be done?

Dietitians already in the field have acquired the routine of their work. How are they to do even a little reading each month? We must assume that any hospital in good standing is ready to improve the dietary department. Have dietitians access to a library containing medical and biochemical magazines and the current literature on nutrition? Have they time to read, or are they held so closely to detail that when the requisite number of hours of work is completed no energy remains to stimulate original thought or research?

I once knew a dietitian of a hospital of two hundred beds whose hours of service ranged from half-past five in the morning to seven o'clock in the evening, with only two hours' relief allowed in the afternoon. Subtracting all meal times and Sunday and recreation time, this woman worked, on an average, ten hours per day. When she wished occasionally to leave one-half hour earlier on her

afternoon in order to catch a certain train to her home, her superior officer always looked astounded. Yet she had competent assistants and her department always ran smoothly in her absence.

And one day the hospital superintendent was amazed to learn that, notwithstanding the salary and "privileges" that this woman had, she did not wish to remain longer as a hospital dietitian.

Do dietitians as a rule settle down and accept all the adverse conditions of their particular situations, content to receive a certain remuneration each month, or do they scan the horizon for the approach of opportunity to enlarge their sphere of usefulness, in whatever guise that opportunity may come? It is not improbable that many physicians do not realize how much assistance a dietitian can be to them.

Who is primarily the most interested in the all-round development and efficiency of a department—the specialist in that particular field, or those who are served directly or indirectly from it? Is it not a psychological fact that only an interested person will carry responsibility efficiently? And if a chief is to be held responsible for duties and conditions she must be allowed to *be* responsible.

The true dietitian, when properly trained and experienced, is a specialist. Her knowledge of her own domain must tower over that of her allied contemporaries. It is the privilege of those served to criticize, ask, or even demand of the dietitian. But there is a line which in high-grade management cannot in decency be crossed.

Cooperation of the dietary department with other departments can be established and carried on without undue friction. When this state of affairs has been reached the efficiency of the entire institution is increased.

Schools that train hospital dietitians must know what instruction is needed to prepare them to fill suitably positions in hospitals of the different classes, noting that the surgical hospital, the small general hospital, the large city hospital, the children's hospital, or the heavily endowed semiprivate hospital may or may not need a highly trained specialized dietitian.

Training schools should follow their graduates into the field, and, if they are found successful, should note the conditions which have made for success, whether wise administration and fair working conditions have paved the way or whether the dietitian has had to move mountains to reach her place of attainment. Training schools (through their appointment committees) should also investigate failures and learn if the dietitian herself was at fault and why, or if the working conditions were impossible to cope with.

Hospital authorities who employ dietitians should know where to apply for a woman trained as the situation to be filled demands. This woman *can* be found if (and the "if" is not a small one) the hospital will not only pay a salary large enough to attract an efficient woman, but will also give her freedom to work out her problems and a fair and reasonable cooperation and backing when difficult situations are to be met.

Edible Fats

BY DR. J. A. WESENER and GEORGE L. TELLER, of the Columbus Laboratories, Chicago.

Nature furnishes food fats from two sources—animal and vegetable. The herbivorous animals receive fat from the vegetable kingdom, in the grasses and grain, whereas the carnivora exist on fat largely from animal sources, and this also applies to the omnivora, in which man is included. The present civilized man of esthetic taste likes food which appeals to his palate; that is, the taste of discrimination between desirable and undesirable flavors in foods is one he has acquired by years of cultivation. As a matter of fact, neutral oils in fat, such as obtained from vegetable products, do not appeal to the taste, for the reason that they are all flavorless, and if they do possess a pronounced flavor, as is often found in the unpurified or imperfectly purified product, this is often objectionable. Absolutely pure fats obtained from both the animal and vegetable sources are all bland, neutral, and tasteless, and not one of these products in such a pure state appeals to the esthetic taste of man. The flavors or characteristic taste possessed by some of the well-recognized edible fats, such as butter, oleomargarine, goose fat, tried-out beef and mutton suet, are all due to changes brought about in their production and rendering. Butter and oleomargarine, which head the list as fats possessing the most agreeable taste, are both manufactured products. The delicate chemical changes brought about in their production are the factors which produce the desired action on the gustatory nerves. These flavors are especially intensified when these two fats are used in cooking and in connection with other food products. In fact, many a dish would lose its characteristic flavor if such fats were omitted in the preparation of it.

Butter, especially in the process of cooking, is prone to chemical changes which produce most desirable effects. Cooked asparagus treated with drawn butter, in one case simply melted and poured over, and in the other case slightly browned before being applied to the asparagus, produces a change which is very pronounced to the taste. In the former case the change as to flavor is very mild, whereas the slightly browned butter brings out the characteristic flavor of butter fat to a marked degree.

Using neutral vegetable oils in cooking, which possess no characteristic taste and which on account of their chemical nature are not capable by the treatment in cooking of producing any characteristic flavors, do not for that reason produce edible dishes which appeal to the taste, unless, as in case of salad dressing, they are incorporated with other condiments or foodstuffs to bring about characteristic and distinctive flavors. This factor is so to a marked degree in bakery products, such as cake. Anyone can tell immediately, almost instantly, whether a cake possesses the butter flavor or not. Purified cottonseed oil, which is quite extensively used in the baking of cakes, while it produces a wholesome and very edible product, nevertheless does not possess that delicate flavor characteristic of butter fat.

The history and manufacture of Oleomargarine, more recently named Butterine, is interesting from not only the food value standpoint, but also that of the legal one. This product was introduced by the Paris Health Council, April 12, 1872, and its sale was authorized at that time, but provisions were made that it should be sold upon its merits and not marketed under the name of butter. Napoleon III., in an effort to reduce the high cost of living, commissioned a French chemist, M. Mège-Mouries by name, who endeavored to develop a good wholesome cheap substitute for butter. After several trials, the chemist was able to produce quite a satisfactory edible product. It was sold under the name of Margarine, and this word seemed to arouse the hostility of the dairy interests, for the reason that they realized that this fat would be a keen competitor of their product.

In our own country the Butterine manufacturers have had their own trials and tribulations. The production of this wholesome and edible product, which is an ideal fat

for the poor man's table, has been legislated against until its manufacture has been so harassed that the industry has had difficulty in keeping up its existence. The legislation in this country has been purely a political one. All parties have finally agreed that the manufacture of this product gives a wholesome and absolutely pure food, and that in its manufacture the factors of hygiene and cleanliness are fully borne in mind, and nothing but the most thoroughly wholesome and inspected products are used; the factories are conducted under the most sanitary conditions, and the finished product represents 100 percent purity. The legislation which makes it so difficult for the Butterine manufacturer to operate, is the Federal law governing its production and sale. The law as drawn does not permit of the addition of any yellow coloring matter to the product, although it allows artificial coloring matter in the manufacture of pure butter. The wording of that section of the law is very clever. It states the ingredients that are permissible in the manufacture of Oleomargarine or Butterine, and provides that they shall be churned in milk. If the finished product thus made from natural ingredients has the semblance of natural butter, there shall be a tax of 2 cents a pound. If, on the other hand, artificial coloring is added, then a tax of 10 cents a pound shall be levied. Butter from milk produced in the winter time is practically colorless, and this apparent eye defect is overcome on the part of the butter manufacturer by adding artificial color. As a matter of fact, the butter manufacturer today, recognizing the importance of color in his product, in so far that it appeals to the eye of the consumer, and further knowing that the natural color of June butter is of an evanescent and fleeting nature, has standardized the color of butter by adding to it during the process of manufacture, either annatto or a yellow aniline dye, which gives a stable and permanent color to his output. The point in the law to which we direct especial attention is the wording of "Color, the natural semblance of butter." As we have already shown that butter only has color when the cows are grazing in the summer, and is practically colorless in the winter when they subsist largely on dry food, the anomaly and unfairness of the situation lies in this fact that butter has a natural yellow color in only a few months of the year; that it would be practically colorless during the other months, and as the dairy farmer knows that the American esthetic taste demands yellow in his butter, he artificially colors it during that portion of the year when no coloring matter is added to this product from the feed. We are sure that the unfairness of this situation will appeal readily to the mind of the reader when we put it in the concrete form. The wording of the law assumes that butter as produced throughout the year always has a standard uniform yellow color. Now, the contrary is true, but the farmer recognizing the defect of his product in this regard has standardized and made uniform the color of butter by adding during the whole year artificial color so as to give his finished product a uniform and constant color in imitation of what the product would be during the most favorable grass season.

Here are two industries separated by a thin wall. One man puts artificial color in his product, representing the fat obtained from the milk, and is taxless. The other man, on the other side of the wall puts artificial coloring in his product, names it Oleomargarine, or Butterine, and is taxed 10 cents a pound for it. The question of the wholesomeness and food value of Oleomargarine or butter is not in any way influenced by the natural or artificial coloring matter added to it. The coloring matter only represents a decorative feature, and this factor in this country would have no value at all if the people had been educated to eat white butter, as is the common practice in Europe, but the ultimate effect of this, with the taste of the consumer as it is, is to put a burden on Butterine in this country which it cannot overcome. The 10 cents a pound additional tax keeps the price of butter at the elevation which is satisfactory to the butter manufacturer. Removing this tax would reduce not only the butter price, but also probably that of Butterine.

Manufacture.—The ingredients entering into the manufacture of Butterine represent the choicest and best portion of fat of the animal carcass. These have all been thoroughly inspected and passed upon by the United States Bureau of Animal Industry. The beef fat is melted and the excessive amount of stearin is separated out, leaving the more liquid portion for use in the manufacture of Butterine. The object of this is to have a fat approximating more nearly the melting point of butter fat. That from the hog is also used, and after being thoroughly purified is added to the mixture. The beef product is known as Oleo and the hog fat as Neutral, the word neutral in this instance signifying that it is absolutely bland and neutral to the taste. Vegetable oils of various kinds are added to some of these mixtures. The use of the vegetable oil depends upon the grade of product which is to be manufactured. The fats are all melted and then churned in milk which has been previously pasteurized and fermented. The product is then allowed to stand for some time until it ripens. It is then worked like butter and made into the finished article Butterine. The condition of the factories in which this product is manufactured is as a whole far more sanitary and hygienic than the factory in which butter is made, and the raw material is much more carefully selected, as all these products are carefully inspected and certified to by the United States Government.

The milk, as we have stated, is first pasteurized for the purpose of killing any disease or pathogenic organisms, and then allowed to ripen by the addition of a ferment which is prepared in a scientific manner. It is then used in the process of churning.

We have been and are now of the opinion that the Oleomargarine Law, as it now stands on the statutes, should be repealed, in so far that the 10 cents a pound tax for artificial coloring should be removed. Some small tax necessary to cover the expenses of inspection during its manufacture and to insure its sale under its true name, would be perfectly legitimate and proper, but aside from this, this wholesome product should not be in any way handicapped, and especially in these serious times when food prices have gone so high that the use of butter in any form is almost prohibited.

A New Canadian Red Cross Hospital

The summer home (described in reports as a "palatial residence") of Mr. and Mrs. Ira Kippon, of South Orange, N. J., has been extensively remodeled for use as a hospital and formally turned over to the Canadian Red Cross. This new hospital is located on Leek Island, which is near the western end of Grindstone Island, about six miles from Clayton, just across the boundary line between the United States and Canada. The building will accommodate sixty patients, and this number will be received at first. These first patients will, when convalescent, be placed in tents and other buildings, making room for others in the hospital. The entire capacity of the institution, bed patients and convalescents, is 250.

THE WAR: ITS HOSPITAL, MEDICAL AND NURSING ASPECTS

THE FRENCH HOSPITAL SHIP FLEET

Organization Facilitates Treatment of Large Numbers of Patients—Feeding Likewise Planned on Large Scale

Dr. Rosalie Slaughter Morton, of New York, an attending surgeon at Vanderbilt Clinic, spent last summer in the service of the allies, and was later decorated with the Serbian order of St. Sava for her work in Macedonia and Saloniki, says the editor of the *Red Cross Magazine*. She was granted special permission by General Sarrail to make the journey to and from Saloniki on French hospital ships, the equipment of which, as well as the medical and administrative work on board, she was given every opportunity to observe. Her impressions are recorded in an article in the *Red Cross Magazine*.

Eight hospital ships under the French flag, she says, carry the sick from Saloniki to Bizerta and to Toulon. These ships are the *Blen-Hoa* (described in an abstract in THE MODERN HOSPITAL, January, 1917, p. 47), the *Dugay Trouin*, the *Vingh-Long*, the *Sphinx*, the *Andre-Lebon*, the *Bretagne II*, the *Tchad*, and the *France IV*. The first three are converted merchant vessels which formerly ran between French Indo-China and Marseilles. Dr. Morton made the journey from Toulon to Saloniki on the *Bretagne II*. What was formerly the dining room of the ship was filled with the sick, who were brought in by stretcher-bearers. On the lower decks a crane carrying a canvas hammock with high sides was used to swing the patients down on their berths. Six hundred patients are carried on the ship.

Dr. Morton made the return journey from Saloniki on the hospital ship *France IV*, which, since the sinking of the *Britannic*, is the largest hospital ship in the world. The vessel was formerly the liner *LaFrance* of the Compagnie Générale Transatlantique, carrying mail and passengers between Havre and New York. On the voyage described by Dr. Morton she carried 2,526 sick and wounded. The medical officers include a chief physician with the rank of colonel, who supervises all the hospital work of the ship; a medical chief, with the grade of commandant; 4 surgeons who rank as captains; and 3 lieutenants. There are also 2 pharmacists, 11 women nurses, 75 men nurses, and 100 orderlies. Each physician in charge of a division has under him about 250 patients, and is assisted on his rounds by six attendants, as follows: (1) a woman nurse who records the cases needing hypodermic medication and what is to be given; (2) an orderly carrying a box of nineteen medicines in tablet form; (3) an orderly carrying a pitcher of tisane, to help the patients swallow their medicine; (4) a clerk carrying the patients' bedside record; (5) a man nurse who prepares the patients for examination and records all prescriptions to be filled; (6) an attendant carrying the patients' temperature records. This system greatly facilitates the physician's work. Organization, Dr. Morton remarks, enables the French to conduct their hospitals on land and sea with less than half the force maintained by the British.

System is also carried into the feeding of the patients, which necessarily is on a large scale.

"At eleven o'clock, the hour for luncheon to be served, an orderly appeared carrying aluminum plates, knives, and forks in a basket. One of each was left with each patient. On the soldiers' decks, an orderly followed, carrying two buckets of hot, soft-boiled eggs; after him came two more, each carrying two buckets of a meat and vegetable soup. Two other men carried four buckets of well-cooked cereal, and three carried pitchers of milk or tisane. Huge baskets of bread, cut in quarter and half loaves, were quickly emptied. This menu was served to those who were not restricted to liquid food, but were unable to take the heavier diet of meat, or fish, with potatoes, beans, bread, lemonade or tisane and dessert. The food was changed daily, was always well prepared, and carefully inspected and cleanly served. Breakfast consisted of coffee or tea with bread at seven o'clock. Dinner was much like lunch and was served at five. Bouillon could be had between meals. Everyone was asleep by half-past six in the evening.

"The officers had separate trays, or came to the dining room where a varied menu was served.

"The physical strain of the amount of work which must be done, and the tremendous emotional strain of it, could not be borne if it were not for the interval of comparative rest afforded by the six days' necessary stay in Toulon, two for transferring the patients to the waiting trains, and four for disinfecting the ship. Three and a half to four days are taken for the return trip to Saloniki."

* * * *

BRITISH HOSPITAL SHIPS

Special Problems of the Hospital Ship—Operating Theaters in Converted Liners

Before the war, says Fleet Surgeon E. C. Lomas of the British navy, writing in the *British Medical Journal*, there was only one British hospital ship in commission, the Maine, which was originally fitted out by a group of American ladies during the South African war and subsequently taken over by the British Admiralty. Unfortunately this vessel went ashore in a thick fog on June 19, 1914, and was lost, but the arrangements for the provision of sufficient hospital ships for the fleet previously made by the admiralty worked admirably. Within four days of the order to mobilize for war three ocean liners were converted into hospital "carriers," and with their medical and nursing staff, and full equipment of cots, bedding, and medical and surgical stores complete.

In the meantime work was being pressed forward in six other ships intended for more permanent service from plans which had already been prepared during peace, so that they were ready for sea in about three weeks or less. These vessels were mostly intermediate liners, in which the passenger accommodation and cargo space were easily adapted to their new purpose. The swinging cots fitted averaged about 220, but additional emergency accommodation was provided for about 300 more patients. In the Mediterranean this number was sometimes largely exceeded, over 900 cases being conveyed to a base hospital on one occasion.

As a rule, there are six or seven wards for men and two or three for officers, which were adapted by converting portions of the saloons or removing cabin bulkheads,

some officers being also nursed in cabins. A padded room for mental cases was also prepared. The decks are covered with green corticine, which is easily kept in a high state of polish; the bulkheads and cots are enameled a very light green. Ventilation is maintained by means of scuttles, supply and exhaust cowls, and special motor-driven supply ventilators.

The operating theaters are installed either in music rooms or saloons, or in specially constructed erections on the upper deck. In the former case the somewhat ornate walls are covered in with match-boarding enameled white. The rooms are divided into two parts with separate entrances and sliding doors between, one-half being used as a preparation and sterilizing room. The decks are tiled and all the tables, shelves, and other structural arrangements are of the aseptic pattern. In spite of their extemporized character, it does not appear that any case of sepsis could be definitely attributed to faulty surroundings. The cot lifts, which serve the wards, are placed near the operating rooms so that the exposure of a patient after anesthesia is reduced to a minimum.

On the home station the work of the hospital ships is, to a large extent, similar to that carried out by the Maine in peace time. The fleets at their different bases—often in remote districts, where no shore accommodation is available—are attended by one or more ships. When nearly full they are either cleared by smaller hospital ships, which convey the patients to a convenient rail-head for further transference by ambulance train, or at stated intervals the hospital ships proceeding to the scene of an action had to be to discharge their cases, and are then coaled, provisioned, and if necessary repaired or refitted.

It soon became evident that any preconceived ideas of hospital ships proceeding to the scene of action had to be discarded. Apart from the difficulties of transporting wounded men from the fighting ships in bad weather at sea, it was obvious that the conditions of modern naval warfare precluded these ships from remaining with their engines stopped without running grave risk of being torpedoed by submarines.

In harbor the conveyance of patients is carried out by converted drifters or in ships' picket boats and cutters. Some of the former are fitted to take eighteen cot cases under cover, and in bad weather are far preferable to ships' boats. On arrival alongside, the cots are hoisted in by hydraulic or steam cranes, in a tray which would take either a service cot or a stretcher. When comparatively large numbers of men wounded in action have been brought in by destroyers and light cruisers, it has been found quite possible to get these vessels alongside the hospital ship, which considerably accelerates the transfer.

Disembarkation is simply the converse of the process of embarking a considerable number of cases. It is done in two ways—that is, either by discharging to a smaller hospital ship which comes alongside or by the ship herself proceeding to a port with rail facilities.

Improvements are constantly made in these ships; for instance, in the x-ray room of the Garth Castle aerial leads were installed, viewing boxes and adjustable carriers for water-cooled tubes made, and many other accessories fitted up by the ship's artisans and electrician under the supervision of the surgeon in charge of the department.

A new feature is the provision of a ship specially for zymotic diseases. The ordinary hospital ships are not able to deal with these cases without seriously impairing their general efficiency, so the advent of the Agadir was the greatest possible boon.

Stowage of Wounded on Ships of the British Navy

The stowage of the wounded on board battle ships has exercised the minds of naval medical officers for many years. Deputy Surgeon-General Robert Hill and Fleet

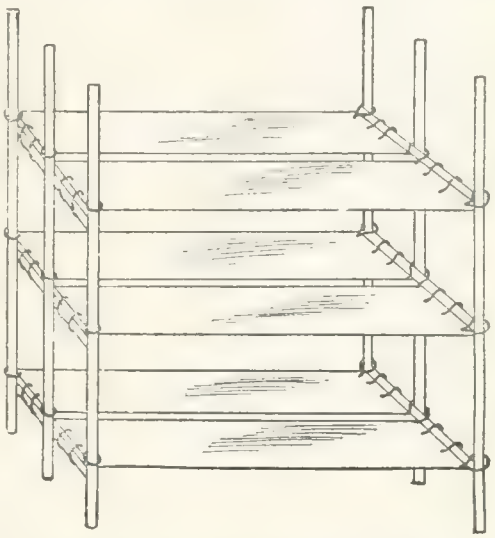

Fig. 1. A group of six cots in position, designed by Staff Surgeon Bringan in H. M. S. Edgar.—*British Medical Journal.*

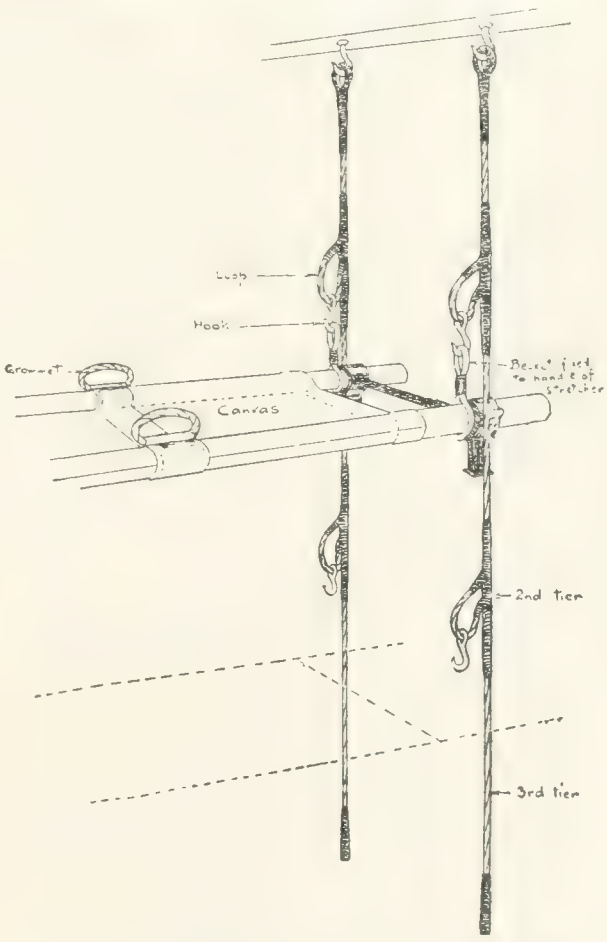

Fig. 2. Bamboo "field" stretcher slung from wire roping in tier-of-three system; design adopted by the British Admiralty.—*British Medical Journal.*

Surgeon E. A. Penfold, both of the British navy, describe in the *British Medical Journal* various designs for increasing the accommodation for the wounded. In all designs the tier system has been employed. The two chief types

produced (Figs. 1 and 2) are the rigid wooden skeleton to hold cots or stretchers and wire roping, fitted with loops at intervals of 2 feet to carry the stretcher, fixed to the beam above and either fixed to the deck below or allowed to swing clear. The committee appointed to report on accommodation for the wounded decided to adopt the wire-roping system, erected in single tiers for three stretchers, as the most useful. This contrivance, rigged near the distributing station on both sides of the main deck and in other suitable sites, increases the storage room threefold, keeps the wounded off the wet deck, and places them in situation from which they can be easily attended to and moved should the disengaged side become the engaged one.

* * *

VICTORY OVER WOUNDS

The Disabled Soldiers' Resurrection—Results of the Re-educational Work of the Canadian Military Hospitals Commission

Canada should be as proud of her wounded soldiers' victory over their wounds as she is of the glorious fights in which they fell, says a publication of the Military Hospitals Commission of Canada. Their struggle up from the depths of disablement is often as hard, and even as heroic, as their desperate defense of Ypres or their dashing capture of the Vimy ridge.

We hear little, altogether too little, of these hard-won victories by disabled men, because they are fought out in the seclusion of a hospital, not in the theater of war with the whole world looking on. But such victories equally deserve public recognition. They show the same spirit, the same pluck, and still more indomitable perseverance.

A preacher on Easter morning was thanked for the inspiring sermon he had just preached on the resurrection. He said: "I had my text sitting in front of me—a man in khaki, with an empty sleeve. He has had two resurrections already. He was buried by a shell explosion, and was dug out only just in time to save his life. That was the first. He spent months in hospital, fighting his way back to health. That was the second.

"Doctoring and nursing of course did much for him; so did the exercises and occupations that they provide nowadays—perhaps the best part of the treatment. But the man himself was working out his own resurrection, by resolutely putting his own will-power into the task. Now he is almost ready to go out into the world, a better and abler man, he says, than he was before, in spite of his lost arm.

"While the rest of us are thinking of a resurrection beyond the grave, he has won a resurrection this side of it, to a new life of activity and independence among his fellow-countrymen."

Authentic cases resembling that are not rare in the records of the Military Hospitals Commission. Here are a few that have just been communicated to us:

A mechanic who enlisted in the Princess Patricia's Regiment was wounded, returned to Canada, spent three months in a convalescent hospital, and now earns double his former pay, having taken full advantage of the mechanical drawing and arithmetic classes carried on there. Writing to the hospital instructor, he says:

"When I enlisted I was earning about $3 a day at my trade. At present, and since my discharge from military service, I am, technically, a better man all around; I am able now to hold a job as foreman in a machine shop, with more than twice the salary I was getting before. This benefit to me is greatly due to your practical information, and my only regret is that I was unable, after my discharge, to continue instruction with you as you had advised."

Another letter is from an ex-private in the Thirteenth Battalion. Before enlistment he was getting $12 a week as driver on a city milk round. "I always had a liking for drawing," he says, "and felt that if ever I had a chance I would take up a course of mechanical drawing." This opportunity came to him at one of the commission's convalescent hospitals. After six weeks' application to the work there, he was able to secure an appointment with a salary beginning at $75 a month, with good prospects of advancement.

A locomotive fireman enlisted, was severely wounded, and had to have his left arm amputated. Under the commission's scheme of reeducation, which is offered to all men incapacitated for their former work by service, he received special training in telegraphy and railway routine. As a result, he secured an appointment as station agent and despatcher, at $110 a month.

Still another patient, formerly a mechanic, passed the civil service qualifying examination after instruction in hospital, and has got a custom house position at $900 a year, rising to $1,500.

A man who had been a guide and trapper and had never handled tools returned from the front with one eye destroyed by a wound and the sight of the other eye impaired. In spite of all these old and new disabilities, by putting his mind to it he rapidly developed such skill in the hospital workshop that very soon he was clearly on the way to become a first-class carpenter.

Equally remarkable is the case of a Polish laborer. He came to Canada six years ago, and worked in a coal mine till he enlisted. At the front he was both gassed and buried. Though he knew absolutely nothing about carpentry to begin with, after two months of instruction in hospital he also acquired an extraordinary mastery over the tools.

Not every man, of course, can "double his pay." But one of the most cheering facts proved by experience during the war has been this—that almost all the disabled men, including the very seriously wounded, can be equipped once more with power to earn a good living.

And often, as Lord Shaughnessy said the other day, the occupations and training provided by the Military Hospitals system "reveal astonishing talents which even the man himself did not know he possessed."

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Designations for Field Hospitals and Ambulance Companies

Odd numbers will be used to designate field hospitals and ambulance companies when they are motorized and even numbers when they are animal drawn. In order to conform to this system the numerical designation of field hospital and ambulance companies No. 2, No. 11, and No. 6, have been changed to No. 11, No. 2, and No. 13, respectively.

* * * *

Mobile Laboratory Units

The medical advisory committee of the American Red Cross Society are planning to equip five laboratory cars, which will be prepared for emergency work against possible outbreaks of epidemics in cantonment camps in this country. Each car will have a staff of five or more experts and will be so stationed at various cities that any cantonment can be reached with one of these laboratory

cars within twenty-four hours on receipt of request from federal or state authorities. The United States Public Health Service has such a mobile laboratory unit, and the plan has also been commended by the surgeons-general of the United States Army and Navy.

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FOOD CONSERVATION NEEDED IN CANTONMENTS

Waste of Food and Fuel in Army Training Camps—A Field for Expert Dietitians

Women expert dietitians have a war service to offer the country scarcely less important than that offered by the nursing profession, in the opinion of the Rev. Caroline Bartlett Crane, chairman of the Woman's Committee (Michigan Division) of the Council of National Defense. In an address before the recent national conference of dietitians at Cleveland, October 18, Mrs. Crane said:

"Women are rightly admonished and implored not to waste a scrap of food in their households; not only to observe meatless and wheatless days, but to do butterless cooking, and to abstain from peeling potatoes before cooking, to have a conscience about the sugar in the coffee, and the scrapings of the bread bowl. They are asked to assure the "clean plate" by careful serving so there shall be no overplus of food to throw away. All this is right, and the women are loyally responding to this call, in order that our soldiers may be fed.

"At the same time, what is happening in the catonments where the soldiers are fed? I have it from many and direct sources which I am unable to doubt, that buckets and boilers full of bread, meat, oatmeal, cooked fruit, etc., are carried out and thrown away. "Enough good food," one young officer in training stated, "is bodily thrown away in our camp to feed 500 families." Some of it is so spoiled by bad cooking that it never reaches the table. Some is served, but so badly cooked that it cannot be eaten. Some is spoiled because of miscalculations and excess requisitions. Other food is thrown away because there is not enough to "go clear around" on the second serving. Great quantities go to waste because the portions served are too large to be eaten. One young soldier told me that he helped to carry out and throw away eight gallons of prunes, emptied from the individual dishes served to each soldier without regard to whether he liked prunes or not.

"At one cantonment I was told in explanation that it was the fault of the contractor. The loss was his, and not the government's. But the women are told that there is a world shortage of food and that no matter how able we are to buy what we want, we commit a crime if we waste food, because there is not enough to go around. To quote one high authority: 'It is just as great a crime in effect to waste food as to go into the houses of the needy and steal the food from them.'

"Now the knowledge of this gigantic waste cannot and ought not to be kept from the people. In fact, it is fast percolating into the homes that are exhorting to such self-denial, and we are asked many questions by women as to why they should deny themselves to save food for the soldiers, only to have it thrown away wholesale when it reaches them. The soldiers who have spoken to me about it are both astonished and indignant at what they have seen. In some cantonments, I am informed by soldiers and workmen, that an equally notorious waste of wood goes on, great quantities of remnant lumber being "disposed of" in summer bon fires—while fuel dictators are appointed to keep the civil population from freezing this winter.

"It is only recently that the necessity of women's nursing has been appreciated. Now the civil population is threatened with a nurse famine because of the great and imperative demand for trained nurses in the war zone and in the cantonments.

"Now, in this task of scientific and economical feeding of the soldiers, the body of women trained in dietetics and household economies have a very valuable knowledge and experience which should be called into requisition by the government.

"The women dietitians who already control the feeding of many thousands of people in the hospitals and institutions of the country should have their expert service demanded in feeding our soldiers and at the same time saving uncounted tons of good food that without doubt is now being thrown away.

"Here is an instance of what has been done in my own state:

"Some eight hundred soldiers of the Michigan National Guard were to be quartered in Grand Rapids for two weeks (it turned out to be four weeks). The quartermaster after meeting numerous refusals from restaurant keepers to undertake the rationing at 25 cents a meal, appealed to the Grand Rapids unit of the Woman's Committee, Council of National Defense. On two days' notice they undertook the work, using the Masonic Temple for a commissary department. Women prepared the menus, did all the buying and administration (the actual cooking being done by an army chef detailed for the purpose), set the tables abundantly and attractively, hung the rooms with flags and flowers, were always present to welcome the boys, gave such eminent satisfaction that not a complaint or a rudeness of any sort was recorded from the boys—and saved over $2,000 on the contract which is to be invested in comforts for these soldiers. A similar satisfactory work of smaller dimensions was carried on in Detroit by the National League for Woman's Service. All this was the work of non-professional women—just sensible women and good housekeepers, who were doing their volunteer patriotic bit.

"I am sure that the War Department does not countenance waste of food in the cantonments or anywhere else. The launching of this was in a herculean undertaking and it is no wonder that there are still loose ends to be knitted in. I believe that it is high time for professional dietitians to be called to this greatly needed line of war service. They should prepare menus, apportion rations, utilize leftovers, and hold classes of instruction for army cooks. It has always been woman's work to nurse and to feed humanity. The expert nurse has won her place. Now let us make room for the expert army dietitian."

* * * *

SOLDIER WITHOUT HANDS TURNS FARMER

French Under-Officer, Mutilated by Grenade Explosion, Devises Apparatus to Take the Place of Hands

One French farm, we are told, is being cultivated by a former soldier who lost both hands in the war. A. R. Decker, a special correspondent of the Chicago *Daily News*, tells the story.

Before the war young Jean Baptiste Ledrans was a skilled mechanic, especially accustomed to repairing plows and reapers. In the army he distinguished himself by valor and gained promotion to the rank of sublieutenant, his mechanical ability and proficiency in the use of the grenade earning for him the position of instructor. To this he owes his terrible misfortune. During 1916, while he was instructing some soldiers in the use of the grenade, a new recruit handed him a loaded grenade by mistake for the one used in practice. The loaded grenade exploded, killing six men and wounding several others. One of Ledrans' ribs was broken, his right eye was put out, one ear drum was pierced, and both his hands were blown off. Notwithstanding this tremendous affliction, Ledrans' spirit remained unbroken. Two months after the accident, his faithful sweetheart received a letter written by him. They were married in January, 1917, and now he cultivates his father-in-law's farm.

Courage and ingenuity, it would seem, could scarcely go further than they have in this case. His mechanical ability has enabled Ledrans to design apparatus which enable him to hitch up and drive a horse, load and unload a wagon, work in the fields with various tools, write, shave, eat, drink, comb his hair, brush his teeth, and adjust his collar. For the work in the fields a special harness is used. A steel plate, which helps to support the various tools, is strapped on the body. On the left arm is carried a ring

through which the handle of the tool—rake, shovel, hoe, etc.—slides as through the hand, while the right arm is equipped with a socket and set screws in which the various tools can be fixed. When the farm work is done, his wife removes the working harness, substituting in its place a pair of elastic gloves with which he helps himself at the table or performs the various toilet operations.

This, perhaps, is an example of the stout heart in the face of what would otherwise be crushing calamity that has enabled France to hold out against suffering that can be inflicted by an unscrupulous invader. Yet, inspiring as the example of this brave farmer-soldier is, one cannot help feeling that he ought to be given the opportunity to be of still further practical use by designing orthopedic appliances for the use of others who have suffered similar misfortunes and who, though perhaps as courageous, have not the advantage of his mechanical skill and ingenuity.

* * * *

An Aeroplane Ambulance

Aeroplanes have been used or proposed for almost every purpose for which conveyances that move on the earth or the water are utilized. The *British Journal of Nursing* tells us that Dr. Chassing, of Puy de Dome, advocates

An aeroplane ambulance. From the *British Journal of Nursing*.

their use as ambulances in cases of urgency. The illustration shows a rehearsal of the use of such an ambulance at Villacomblay. The *British Journal of Nursing* adds that "it is reported to be an easy method for the injured, who are usually carried about 500 feet high."

* * * *

A Heroine of the Air Raids

A nurse was hurrying along the London streets, says the *British Journal of Nursing*, while the sinister boom of the anti-aircraft guns sounded from all directions.

"Take cover, nurse," shouted the policeman.

"I can't, I am on my way to a case," was the quick reply.

"You must take cover," ordered a special a few yards farther on.

"If I take cover it may be hours before I get to my case," replied the nurse.

"Well, you must take your own risk. Run for your life, or you'll be killed." And she did run, and got to her destination at the hour she had pledged.

Well done, nurse!

WAR TIME INSTITUTION ECONOMIES

The Reclamation of Used Alcohol

BY ELIZABETH SELDEN, B. S., R. N., Superintendent Butterworth Hospital, Grand Rapids, Mich.

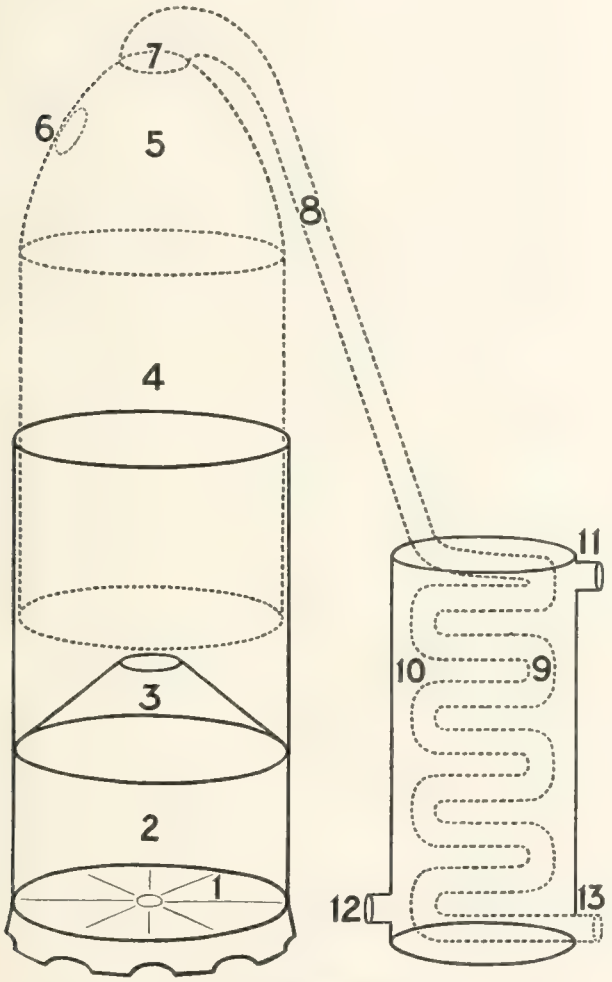
So much has been said and written on the subject of the reclaiming of gauze, and on the universally felt need of the extreme economical use of all surgical supplies, that I wonder no one has concerned himself with the problem of the reclamation of used alcohol. At this time of great demand upon our people for supplies of all kinds it becomes the duty of every institution, as well as every individual, to do its part in the plan of conservation. Alcohol is generally conceded to be one of the best all-around germicides and, when tax-free, one of the cheapest, even during our present disturbed economical and civic condition. Because of this fact, a large amount of alcohol is wasted which might be saved. Everything which can be done in conserving the supply of alcohol should be done. Immense quantities are being used by the government for army and navy purposes, in the manufacture of ammunition, and in the production of drugs. This increased demand made upon the supplies by the government has necessarily decreased the available supply for other demands and increased the price.

Institutions using the untaxed alcohol cannot only serve their government but lower their own expenses, not alone by avoiding waste in the use of alcohol, but by reclaiming it by distillation of much of that used in the sterilization of instruments and in hand solutions. Even here in our own hospital, where it is essential that the strictest economy be exercised, we found that the alcohol, which is the general hand solution used, was being poured over the hands rather than employed in a basin of the solution in which the hands were immersed. After consultation with our doctors, basins containing the alcohol were substituted for the old method. These basins are replenished when needed. The used alcohol from these basins was all saved and stored with that obtained from other sources. At the end of a busy two weeks there was some 5 gallons in the receptacle. This alcohol contained, as its chief impurities, iodine, mercury bichloride, lysol, compound cresol solution, soda, lime, and oil of cloves, according to the different preparation preferred by the surgeon. Our next problem was, how to reclaim this waste alcohol or render it again usable.

As redistilling is the only method whereby it can be made safe for surgical purposes, our task was to discover or invent some means of redistillation. The purchasing of a still was considered, but the fire risks involved caused us to hesitate just at first, and so for a short time a firm undertook the redistilling of the alcohol. From this firm we learned that a tax was placed on redistilled alcohol, which necessitated a visit to the city hall. Here we were informed by the revenue officer that it was a mere technicality of law, a difference in terms such as this: that if alcohol was rectified, made absolute, it was taxable, but if

redistilled and the institution was under federal bond it was not. He also told us that if a still was installed a license would be necessary, but also that it involved no expense.

In the process of reclaiming the alcohol it was discovered that, while with certain stills 75 percent was the strength of the redistilled fluid instead of 95 percent, a larger amount could be obtained owing to the fact that more of the alcohol would be carried over at a lower temperature due to the difference in the degree of heat needed for vaporizing the alcohol at varying densities.



Alcohol still, costing $25.

1. Gas or electric plate or live steam.
2. Steam kettle or water jacket (iron or zinc).
3. Funnel for localizing steam (tin or iron).
4. Evaporating pan (copper, tin-lined).
5. Condenser head (copper, tin-lined).
6. Opening for introduction of alcohol.
7. Opening to allow escape of alcohol vapor.
8. Tube carrying alcohol vapor (copper, tin-lined).
9. Worm condenser coil (copper, tin-lined).
10. Water jacket or condensing tank (iron or zinc).
11. Outlet for water.
12. Inlet for water.
13. Outlet for alcohol.

The result of the investigation was that the 5 gallons of used alcohol upon redistillation netted us some 3½ gallons of a 75 percent solution at a cost of $1. With 95 percent alcohol at a price of $2.25 on the gallon, it was a saving of about $1.25 on the gallon of the 75 percent solution. It was also further found that a gallon of the used alcohol which represents a 75 percent solution, would, when redistilled to a 95 percent solution, give half a gallon.

By redistillation it is possible to obtain from this waste alcohol a product of considerably higher alcoholic strength and comparatively free from impurities, the outlay in expense for the apparatus being warranted by the cost of alcohol saved. This product, however, can be used for external purposes only, as it is impossible to secure a preparation sufficiently pure for internal use without rectification, which process the government does not permit.

The amount of waste alcohol secured from various sources in a medium-sized hospital will average at least 2 gallons a week, which will yield about one gallon of 95 percent alcohol, or a saving, at the present price of untaxed alcohol, of $1.10 a week.

When contemplating the installation of a distilling apparatus it is essential that all phases of the situation be carefully considered, namely, the size of the institution, the amount of alcohol used in the hospital, the wealth of the institution in connection with the cost of the still, and the fire risks with reference to the structure of the building.

The type of still chosen must depend somewhat upon the amount to be invested and the alcoholic strength desired in the finished product. A comparatively inexpensive still can be obtained which will yield a 70 percent distillate. This still consists of an evaporating pan with water jacket heated by gas plate; a retort head leading to a worm condenser which is surrounded by a cold water jacket. However, this still is not practicable for general use.

The materials used in the manufacturing of stills are copper, tin, zinc, galvanized iron, and iron. All parts of the still with which the alcoholic preparation will come in contact should be made of the copper and tin-lined, namely, the evaporating pan, retort head, and condensing coils. The water jacket for the condenser can be made of zinc or galvanized iron, and the water jacket for the evaporating pan of galvanized iron with copper bottom, or iron.

The stills vary greatly in size, as do their component parts. A convenient size for the evaporating pan is from 3 to 5 gallons capacity, allowing for the distillation of from 1½ to 2½ gallons of waste alcohol at one operation, the pan being filled to about one-half its actual capacity to allow for expansion. This pan should rest loosely upon the water jacket, after the fashion of a double boiler, or, if tight, the water jacket should have a vent to permit the escape of steam, thus preventing explosion from the steam pressure. The evaporating pan should be flat-bottomed and shallow, to expose as much as possible of the liquid to the heat, also to increase the surface for evaporation. The retort is best of dome-shape, as this favors the condensation of water vapor before reaching the condensing coils. A funnel-shaped tube leads from the retort head and connects with the upper opening of the condensing coils. These condensing coils extend in spiral shape to the base of the water jacket, and are here furnished with an exhaust from which the condensed vapor is collected into suitable containers. The coils are cooled by means of running water, which enters at the base of the water jacket and is carried away by means of a waste pipe at the top, thus insuring complete condensation of the vapor.

Heat is best furnished by a gas or electric plate, although live steam is very practical if it can be obtained.

The Prentiss alcohol reclaimer will yield a distillate of from 90 percent to 95 percent, and is one of the best but is a more expensive apparatus and for that reason not practical for smaller institutions. It consists of an evaporating pan with hot-water jacket, similar to the one described above, but the retort head is replaced by an upright cylinder containing perforated copper plates arranged in a series, horizontally about 5 inches apart.

These serve to condense much of the aqueous vapor being carried over with the alcohol vapor and increases the strength of the distillate to that degree. The vapor is then led to a worm condenser by means of a horizontal tube.

An apparatus carefully installed and manipulated affords little danger—no danger if steam heat can be supplied. With an open flame the danger consists in the escape of uncondensed vapor, which, of course, is very inflammable.

An apparatus of the size mentioned would require a floor space of about 2 feet by 5 feet, so located as to secure gas and running water, with a carry away for the overflow of water from the condenser.

It is quite possible for any institution to manufacture its own still at an initial cost of less than the market price. The still for our own hospital is now in the process of making as described above.

* * * *

CONSERVATION IN USE OF COAL

The Committee on Coal Conservation, Chamber of Commerce of the United States, Gives Directions for Firemen—Useful Hint for Hospitals

In a circular addressed to the members of the Chamber of Commerce of the United States, the committee on coal conservation makes the following suggestions, which hospitals will find it profitable to study and observe:

To the Members of the Chamber of Commerce of the United States:

Fifty million tons of coal have to be saved in the next twelve months, if industries of all kinds are to be free from restrictions upon their supplies. This is the statement of the United States Fuel Administration, which announces that it will impose limitation upon any industry only as a last resort in its determination to provide sufficient coal for purposes of war, for public utilities, and for domestic use. Every person who uses coal can do his part to prevent limitation being imposed upon industries; he can do it by cutting off with an iron hand all waste and unnecessary consumption. He should understand, too, that saving of 50,000,000 tons means prevention of only one-third the coal that is ordinarily wasted.

Cooperation by the men who fire the coal is essential. After every mechanical preparation has been made to increase efficiency in utilizing coal, actual success very largely depends upon the firemen. They handle the coal. They can toss it on the fire heedlessly, or they can fire it with the care that is due its importance. One investigator reports that last year careless firing resulted in a waste of 10 percent of the steam coal used in seven states, and declared that five minutes daily of time of superintendents and managers, spent in persuading the men to be careful, would have saved millions of tons.

Wherever coal is fired by hand the interest and cooperation of the firemen must be enlisted. They must be impressed individually with the importance of their duties, and made to feel that they have personal recognition—that they perform an expert operation. This is a task for the owner or manager of the plant. He may frequently get great assistance by having his men attend courses of instruction for firemen, which are being organized by commercial organizations. He can also ask them to observe such rules as the following:

Fire Small Quantities of Coal Frequently; the quantity will vary with conditions, but with a free-burning fire and a grate 6 by 9 feet, the correct quantity will ordinarily be around 100 pounds—six to nine shovelsful; the intervals should not exceed 10 minutes and may be as small as 3 minutes.

Cover Only the Thin Spots; spread fresh coal where the flame shows rapid consumption, keep the fuel bed thin—4 to 8 inches, according to size of coal and force of draft—and so far as possible avoid raking.

Clean Fires When Clinkers Stop Draft; but if firing is done with efficiency cleaning will have to be done less often; when cleaning fires deal with one side and then the other.

Take Small Shovelsful; it is much easier to place a small shovelful on the bright part of the fire than to distribute properly a large shovelful.

Stand Directly in Front of the Fire-Door, take a quick glance at the fire before each throw, learn to let the scoop rest on the lower edge of the fire-door at the end of each throw in such a manner as to have the coal slide freely and spread over the place for which it is intended.

Fire Surely but Rapidly, in order to get the door closed as quickly as possible and stop the intake of excess air over the fire.

Keep the Ash-Pit Door Open, in order to insure a proper flow of air up through the grate and the fuel bed, and keep the grate bars cool.

Regulate the Draft by the damper in the flue.

Keep the Ash-Pit Clear of Ashes, or there will be trouble with the grate bars and uneven burning of the fire.

Clean Flues Frequently, in order that accumulations of soot, ash, or scale may not interfere with transfer of heat.

These are merely a few elementary instructions for firemen. Most firemen will have done their part well if they carry a level fire of a definite thickness. The engineer or foreman has the responsibility of determining the conditions the fireman is to maintain.

As a means of obtaining cooperation from the whole force of men who are in a position to promote efficiency in utilization of coal, bonus systems have been devised. In some plants firemen have been paid a bonus for operating the boiler at its best rating; in one plant the bonus has been about $6 a month for each fireman. In another large plant all the force, from the assistant chief engineer downward, participate in the bonus, which is half the value of the coal saved. In the first month the plant was in operation the bonus was over $200, and meant an increase in wages of 10 percent.

Increase of efficiency among firemen will mean the largest aggregate saving that is possible, for firemen handle more of the country's coal than any other class of men. The importance of the fireman is recognized by the railways, and they are the largest users of coal; on November 25 the Railways' War Board asked every road to increase fuel economy by closer inspection of firing practice and by extending the use of superheated steam, feed-water heaters, and the like.

Any member of the National Chamber that wishes to distribute copies of this bulletin can obtain them by addressing the General Secretary, Riggs Building, Washington, D. C. Coal dealers who supply small plants should be in a very advantageous position to distribute copies to their customers.

* * * *

Communal Kitchens

"There ought to be communal kitchens everywhere," says a writer in a recent number of the *Lancet*, who goes on to enumerate a number of the advantages of the plan: "Their installment not only counts for a very material economy in fuel, but they reduce the hardships of the poorer amongst us, and where the system has been introduced the results have been admirable and greatly appreciated. The establishment of cooking centers for the coming winter would tide over a very trying season for a great body of hard and willing workers. Cafes and restaurants are practically barred to the majority of these, the charges made are beyond their means, and at a time when the energy and efficiency of the human machine are tasked more than ever the supply of good nourishing food is essential. As it is two or three sandwiches are trusted to

carry over the fatigued machine until the end of the day, whereas a communal kitchen would provide a means of cooking a substantial meal and give accommodation to partake of food under cheerful and comfortable surroundings. In some cases the communal kitchen may not have been organized on lines essential to success, but everything points to the scheme being a sound one, and when properly executed there is little question of the relief and comfort which such institutions will bring to many. Our local authorities have been so hard pressed with fresh duties occasioned by the war that here and there very little time has been given to the communal kitchen, but with the winter upon us we understand that the work is being vitalized. It is generally agreed that in regard to food supplies and other necessaries we should be prepared for still harder times, and one important step would be to keep in healthy activity the communal kitchen, since it has proved to be a real help and blessing to many people. It can be run without financial loss, and the economy of fuel effected is, of course, an important matter, while the heavy expense of burning coal at home would be relieved. The communal kitchen, in fact, furnishes an excellent example of the benefits which a simple scheme of centralization can render the public."

The suggestion is an interesting one, and it would be desirable to know more about the working of these communal kitchens.

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Sugar-Saving in Hotels

Hotel men are now working out new ideas for the serving of sugar to meet the temporary shortage in Eastern States pending the arrival of western beet sugar and the Louisiana and Cuban cane crops. Study of this question has been beneficial, locating needless wastes. It has been found, for instance, that some guests fill their pockets from the sugar bowl. This is a habit with women, who like to feed sugar to horses if they can do it at somebody else's expense. Loose sugar is often spoiled through dipping with spoons taken from coffee and tea, and sugar served with meals sent to rooms is often wasted. The necessity for restricting guests to two or three lumps with each coffee service has reduced waste and shown that most persons are economical and reasonable in such matters. The hotel men find that they themselves have also been rather wasteful by listing too many sweet dishes on their menus, adding icing to dishes already sweet enough, and making up too many kinds of ice cream and pastry, which leads to a certain proportion being left over to spoil, where one or two kinds would give guests sufficient choice and make it easy to adjust supply to daily requirements.—Food Administration Bulletin.

* * * *

To Save Kitchen Utensils

Thirty manufacturers of kitchen utensils have issued an appeal to conserve pots and pans as much as possible on account of scarcity and cost of metals. Hotel men have responded by issuing the following suggestions to their kitchen employees:

Don't heat foods in a pan without water.

Don't use coarse scouring powders.

Handle kitchen utensils with care.

Soap and water are the most economical and easiest cleaners, also they are far less damaging to the hands.

Buy shapes and sizes that can be used for many different purposes.

Don't scrape pots and pans with sharp knives. Soak them instead.—Food Administration Bulletin.

INDUSTRIAL WELFARE

ELECTRICAL WORK FOR THE SIGHTLESS*

Great Importance of the Double-Duty Finger Guild to Those Blinded in Battle—Work Also Adapted to Partly Crippled and Other Shut-Ins

BY A STAFF CORRESPONDENT of THE MODERN HOSPITAL.

Never before have I attempted to write of the blind and their work with such feelings as those inspired by my long visit to the blind workroom at Ampere, N. J. Always before, I was overcome by the hopelessness, the pathetic struggles of the sightless; now, I find my sensations are entirely opposite. I feel cheered at what I have seen, and it seems as though I had discovered a new world in

Fig. 1. Dr. Wheeler teaching blind men to wind coils.

which these unfortunates have found their place and are able to face the future unafraid and without the least dependence on charity for their livelihood.

Second to this comes the realization of the immensity of the opportunity granted the blind, and particularly the sightless soldiers, to whom our debt is greatest.

To Dr. Schuyler S. Wheeler, president of the Crocker-Wheeler Company, electrical machinery manufacturers, is due the credit for discovering and launching this new em-

*Contributed after a careful investigation of the work being done by Dr. Schuyler S. Wheeler in Ampere, N. J.

ployment for the blind. For years he was interested in helping the sightless, and aided in several movements in that direction. It was not, however, until it became known that soldiers were being blinded in the war—that they were sacrificing their eyes on the altar of Liberty—that Dr. Wheeler plunged into the problem of caring for these heroes.

As he said, "They have given their all for us—we must give them all we can!" and with this feeling he went to

Fig. 2. Workroom of the Double-Duty Finger Guild in the plant of the Crocker-Wheeler Company, Ampere, N. J., where blind men and women are winding armature coils for electrical machinery. Photograph by Paul Thompson.

work. Intense by nature, heedless of obstacles, he let nothing stand in his way. The result is the Double-Duty Finger Guild, where the sightless learn to earn their own living, where they are made independent of charity, where they start life anew.

After several experiments, none of which promised economic independence to the sightless, Dr. Wheeler turned to his own business, that of electrical manufacturing. There he found the work on which the guild is

Fig. 3. An expert blind mechanic wrapping an armature coil with asbestos tape in the workshop for the blind at the electrical plant of the Crocker-Wheeler Company, Ampere, N. J. Photograph by Paul Thompson.

founded—a work that depends on nimble fingers and steady application. This is the winding of coils for armatures, these in turn being used in motors and dynamos. There is an ever-increasing demand for coils; they are an absolute necessity in electrical manufacturing—without them the most important electrical apparatus would be

Fig. 4. Blind men winding armature coils in the plant of the Crocker-Wheeler Company, Ampere, N. J. The photograph shows two forms of work they do—winding with mica strips and with white cotton tape. Photograph by Paul Thompson.

useless. This means that the blind men doing this work are successfully competing with "sighted" workers in an established industry and have attained financial independence.

Four months ago Dr. Wheeler founded the Double-Duty Finger Guild at 22 Park Avenue, Ampere, N. J., with several blind men sent there by the New Jersey Commission

Fig. 5. One of the expert blind mica winders on armature coils in the electrical machinery plant of the Crocker-Wheeler Company, Ampere, N. J. This man has been blind from birth, and, aside from caning chairs, has never been able to acquire a self-supporting trade until Dr. Schuyler S. Wheeler discovered this opportunity for him and his blind companions. Photograph by Paul Thompson.

for the Blind. These men were placed under a competent instructor and in a very few days showed that they could do the work acceptably and well. As soon as it was seen that they were proficient, others were added, so that now there are quite a number, among whom are four women. These latter have been blind for many years, and may be safely said to excel in the work.

Payment is for actual work done, the number of coils wound each week, or as it is better known, by the "piece-work" system, and it has been found that these sightless

Fig. 6. A woman worker who cannot see winding coils at a machine in the Double-Duty Finger Guild of the Crocker-Wheeler Company. Photograph by Paul Thompson.

are able to earn as much in eight hours as the "sighted" workers earn in five, after less than a month's practice. Gradually the blind workers are becoming more adept and their earnings are creeping upward, so that it is expected that the best of them will soon equal the average earnings of their "sighted" fellow-craftsmen. The most important fact is that *they now earn enough to keep themselves—to make them absolutely independent of charity!*

Think what this will mean to the sightless soldiers! They will be saved from the life-long horror of dependence and be able again to take their places in the industrial world.

In addition to the sightless, this work is admirably adapted to those who have lost the use of their lower limbs. All it requires is hands; even the bed-ridden could wind coils. It throws open a vast field of gainful occupation to even the most helpless. If they are unable to earn their own keep entirely, they could earn part and thus relieve their friends, relatives, or the state of part of the burden of their maintenance.

There is much human interest about this Double-Duty Finger Guild workroom. At first sight the most striking feature is the cheerfulness of the workers. They all seem to feel pride in their work, cheerfulness in regard to the future, and happiness that they are occupied in necessary labor. There is none of the dreary hopelessness of the ordinary blind workroom; the whole atmosphere is inspiring. The industry of the workers is extraordinary; their nimble fingers are never idle, and the certainty of their handling of the coils and tapes is remarkable.

Now that the guild has been in operation for several months, several important developments have been noted. It seems that those who have been sightless for the shortest time and who have never been trained in any other kind of blind work make the best workmen. They have nothing to unlearn in the way of manual dexterity and can be taught more easily. The problem of teaching seemed to present great difficulties in the beginning, but it was soon found that most of these were imaginary. The instructor first familiarizes the workman with the shape of the coil, and then guides his fingers while he winds the tape about it. After the pupil winds it, the defects in his work are pointed out, and in a very short time he learns to do the work properly. Coils are of many shapes and are wound with various kinds of tapes, and the more advanced workmen now seem instinctively to use the correct tapes for

Fig. 7. Walter E. Baker, a Columbia graduate, blind for twenty-four years, who has learned to be self-supporting through coil-winding in the plant of the Crocker-Wheeler Company. Photograph by Paul Thompson.

the job in hand. Glue of great strength is used in several of the operations, and is usually applied with the finger tips; these sightless workmen handle it with the same certainty as the other materials and it is most unusual for them to misapply or spill the sticky fluid.

The superintendent of the workroom also informs me that the blind who have been recipients of charity for a long period make the worst workmen. To put this in her words, "the sightless that have been pampered" are the most inefficient. It seems, however, that they sooner or later enter into the rivalry of the "piece-work" system and try to make as much money as they can in the eight and one-half hours allowed each day. After several weeks, or

at most a month, these institutional blind place themselves on the same footing as the others and begin work with equal diligence.

The work of the guild is attracting much attention. Several organizations have sent workers to learn the art of winding coils, and these men are soon to be graduated. In addition, private individuals interested in the sightless have made arrangements to have men and women trained in the guild. An instance of this occurred a few days ago, when two manufacturers made arrangements for the training of one of their former employees who had lost his sight through paralysis. This man, who had been a shop foreman, is in the best of health, and has been grieving that he has become a dependent. Attempts were made to teach him various blind trades, such as basketry and chair-caning, but he had no interest in these because he knew that they were at least charity occupations. When he was told of the work of the guild and how its workers had been taught by Dr. Wheeler to become economically independent, he immediately communicated with his friend and undertook to join the guild workers.

Although Dr. Wheeler's work has become of national importance its greatest good to the blind will undoubtedly come through its international adoption. The Allies are facing the problem of caring for their war-blind, and the guild work offers them an ideal solution of this great responsibility. Sightless soldiers can be taught to wind coils and thus attain independence. Plans looking toward this are now under way and important developments are expected during the early months of the coming year.

To summarize, the work of the Double-Duty Finger Guild as established by Dr. Wheeler, it can be said that *it makes the sightless independent*, and it seems to be the only occupation that has done this for these unfortunates.

Poor and High-Priced Employees

There never was a time when it was so difficult to obtain competent domestics and other hospital help. This is due, of course, in large measure to the necessities of the war and the consequent high prices for labor in almost every field.

Most hospitals insist upon having young women in their domestic departments and the ablest-bodied men for domestic service; the older women and men who are physically or mentally handicapped in some direction seem not to be wanted. And yet there is no field in which old women and crippled men could do better than in hospital service, and it seems to us that the hospitals of the country could materially help "win the war" by readjusting their internal management so that the lame man, the man with one arm, and the older women who may have "rheumatics" or an occasional "lame back" can be pressed into service and paid the wages, with board, that hospitals can afford to pay. There are thousands of these handicapped and old people tramping the country looking for work, and while we are talking about "reeducation and helping the handicapped," and the utilization of the waste energy due to old age, let us make a start where it can properly be made and let the hospitals show the rest of the country that they can practice what they are preaching all the time.

An applicant for Poor Law relief was instructed that, as his plea was ill-health, he must first attend the hospital to obtain a diagnosis. "No, I don't," he replied. "I've 'eard as many 'as died of that disease!"—British Journal of Nursing.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

The Rochester Dental Dispensary. Bull. Rochester Med. Soc., 1917, III, No. 3.

This dental dispensary was opened May 9 of this year. The building and general furnishings are the gift of Mr. George Eastman, who also provided funds for the maintenance of the institution. All the children in the schools of Rochester who are unable to employ regular medical and dental practitioners will be admitted to this dispensary. The building consists of a main structure and two wings, having a frontage of 153 feet and a depth of 95 feet. Besides the Forsyth Infirmary in Boston this is the only institution of its kind in the United States.

A Plea for the Establishment of Standardized County General Hospitals. Frank G. Nifong, M. D. Jour. Missouri State Med. Assn., 1917, XIV, No. 8.

Dr. Nifong says that the present county hospitals of Missouri are merely misnamed poor farms. He calls attention to a law passed by the last general assembly of Missouri, making it possible for counties to vote bonds for the establishment and maintenance of county general hospitals. Such a hospital, he says, must almost of necessity be an open hospital, giving service to all legal practitioners, perhaps not even having a staff, or, if it has, serving only charity patients. He believes it possible to secure standardization and efficient management for such institutions through affiliation with the state medical school.

The Hospital Surgeon—His Economics and the Standardization of His Work. Warren L. Duffield, M. D., F. A. C. S. New York State Jour. Med., 1917, XVII, No. 8.

Dr. Duffield complains that the New York workmen's compensation law, which became effective July 1, 1914, works injustice to the hospital surgeon. Many insurance companies, he says, arbitrarily cut the surgeon's bill and evade and delay payment. The surgeon's only remedy is tedious litigation, and this, in one or two cases, has resulted in the disallowing of bills previously approved by the state industrial commission and the municipal courts. A more serious injustice is said to be perpetrated by insurance carriers in compelling injured employees to transfer themselves from the care of their family physicians to that of physicians in the employ of the companies, under threat of withholding compensation. Further, a ruling of the commissioner of charities, who controls the municipal hospitals, prohibits the surgeons of these institutions from accepting fees from patients. This Dr. Duffield regards not only as unjust, but also as contrary to the provisions of the compensation act. In view of the near approach of compulsory health insurance legislation, he suggests organization to solve the various problems involved.

The Isolation and Treatment of Discharged Tuberculous Soldiers in Paris. Mesureur. Bull. Acad. méd., Paris, 1917, LXXVII, No. 24.

Last year the city of Paris appropriated 5,300,000 francs (about $1,060,000) for the erection of isolation pavilions at the various hospitals to receive discharged tuberculous soldiers. Ten of these pavilions have already been erected, containing in all 700 beds. At the end of this year, pavilions with 1,400 more beds will be completed. Some of these buildings are located in the suburbs of Paris. The material of a number of these pavilions is reinforced cement. They are considered indestructible. The cost is about 2,500 francs ($500) per bed.

Opening of the Special Pavilion for Tuberculous Patients of the Municipal Hospital at Pallanza. Tubercolosi, 1917, IX, No. 4.

Though Pallanza is only a small city, it was found necessary to erect a special pavilion for tuberculous patients. The pavilion consists of a central structure and two wings. Only the central building has two stories. The first story contains a dispensary and a bacteriological laboratory. The second story is intended to receive children with tuberculosis of the bones and joints. A spacious veranda serves as a solarium. The left wing is devoted to adult female patients, the right wing to adult male patients. The whole structure is built of stone and has cement floors.

The Improvised Hospital Trains in France. Riv. di ingegner. san., Milano, 1917, XIII, No. 11.

The author complains about the insufficiency of the Italian hospital trains and shows how rapidly France improvised hospital trains by converting ordinary passenger cars into hospital cars. In the Italian trains, the stretchers are arranged parallel with the axis of the train; in the French car they are perpendicular to it. The third-class cars of the French railways, which have simple wooden seats, were selected for this purpose. The seats were not disturbed. Wooden supports were attached to the seats. The stretchers rest on and are fastened to these supports, each seat having two stretchers, one above the other.

The Leprosarium of Seville (Spain). Rev. valenc. de ciencias med., 1917, XIX, March 10.

This institution was established in the beginning of the thirteenth century by King Ferdinand. The hospital is situated in a beautiful region about two miles north of the city. A large part extends along the whole front of the hospital. The building is old and does not at all conform to the principles of modern hygiene, but hygienic measures are somewhat made easier by the great extent of the building, which is much too large for the limited number of patients. The average number of patients during the last few years was about thirty, two-thirds of whom were males. The male patients are strictly separated from the females. The attending personnel consists of a physician, two nurses, six sisters of charity, and a chaplain.

Artificial Feeding in Infant Asylums. O. Viana. Rassegna d'ostet. e ginecol., Naples, 1917, XXVI, No. 5.

The high mortality in Italian infant asylums is chiefly due to artificial feeding. Of this the statistics of the asylum at Verona are the best proof. During the years 1912-16, 2,570 infants were cared for. Of these 259, or 13.9 percent, died. Among the 2,570 babies, 345 had to be fed artificially on account of suspected syphilis or for other reasons, and of these 218 or 52 percent died. To remedy this condition the author proposes to compel the mothers to feed their children at the breast during the first months of life. The infant asylum at Verona has already decided not to receive any more babies unless their mothers bind themselves to feed their children at their homes or to enter the hospital as wet-nurses.

The New Calcutta Eye Hospital. F. P. Maynard. Indian Med. Gaz., Calcutta, 1917, LII, No. 7.

This new hospital, which is under construction, is connected with the Medical College of Calcutta. As the ground is very expensive the building will have four stories. The ground floor will be devoted to out-patient work, the first floor to cataract and glaucoma cases. This floor contains beds for 46 Indian males, 36 females. The second floor is devoted to general eye diseases, including septic cases, and the third floor to quarters for the resident surgeon, while the fourth floor will contain the quarters of the resident staff. The first floor, containing the cataract and glaucoma department, will be strictly separated from the rest of the hospital.

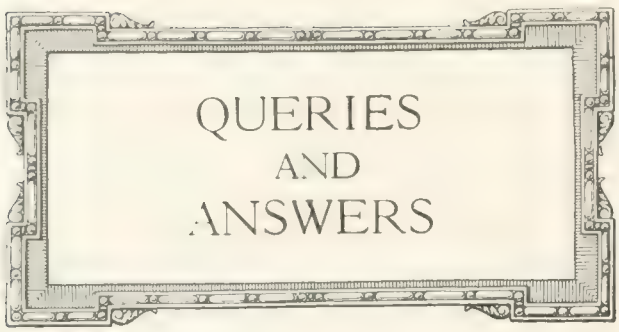
Care of the Insane in the United States of America. V. Parant, Ann. méd. psychol., 1917, LXXIII, January number.

The author gives a short review of the work done in this country for the insane. During the last few years a great number of hospitals for the insane have been built and the old ones have been enlarged. This increase in hospital construction is chiefly due to the great increase of mental diseases. The article mentions especially the State Hospital Commission of New York, which, with its extensive powers, has accomplished a great work. All the state hospitals are under its supervision. Though it does not interfere with the autonomy of each hospital it exerts a powerful influence on the work of the various institutions. It has also codified the numerous laws relating to insanity, and in 1914 it succeeded in having passed a highly important law, which covers the whole field of the care of the insane in the state of New York.

Home Treatment Versus Sanatorium Treatment for Tuberculosis, With Some Observations on Climate. W. O. Wilkes, M. D. Texas State Jour. Med., 1917, XIII, No. 8.

Dr. Wilkes believes that the majority of all tuberculous patients may best be treated at home. In incipient cases, there is usually no menace to the health of other persons, particularly if the patient is taught sanitary principles. The patient enjoys more comfort at home, especially if sanatorium charges are likely to be a source of financial strain and worry, and in many cases the patient may continue his usual occupation while undergoing treatment at home. The majority of moderately advanced cases might benefit from education in sanatorium methods, but only two divisions of this moderately advanced class really require sanatorium treatment. These are the very poor, who cannot get the necessary abundant and nutritious food, rest, fresh air, etc., in their homes, and some unstable rich patients who cannot be controlled in their homes. Only one class of tuberculous patients, in Dr. Wilkes' opinion, should be in sanatoriums for the protection of the community and for their own comfort. These are the far-advanced cases, which are not accepted in most institutions.

Even in the meanest sorts of labour, the whole soul of a man is composed into a kind of real harmony the instant he begins to work.—Carlyle.



Operating Room Floor Dressing

To the Editor of THE MODERN HOSPITAL:

We should appreciate advice in regard to treatment or a dressing for our operating room floor, which is of plain cement. A MINNESOTA HOSPITAL.

We believe that the best possible solution of your operating room floor problem is to lay battleship linoleum in terra cotta color. That color has no stain in it and will not fade, and if it is properly laid you will have the best operating floor that we know of. It is not quite so popular as yet with those who are still insisting on the "all-white" operating rooms, but we can promise that you will like the battleship linoleum, and if it is properly laid you can forget your floors for the next fifteen or twenty years. Everything is in the laying. Have your local merchant through whom you buy the linoleum send for double the amount of cement commonly used to attach the linoleum to the floors. Then you will take ordinary red building paper, cut out enough to fit the floor exactly without overlapping, then roll it out of the way, marking each piece so that you can place it again exactly where you cut it for. Then take a whitewash brush and put a sufficient coat of cement on the floor to cover completely the space to be occupied by one sheet of the building paper. Lay the building paper down over that cement, fitting it snugly, and continue in this way until you have entirely covered your floor with building paper, cemented to the concrete with the linoleum cement. Let this coat dry for two or three days, keeping people off the floor. Then take your 6-foot widths of battleship linoleum, which is one-fourth inch thick, lay it on the floor over the building paper, and cut it out snugly to fit the floor. If you can lay sandbags over it for two or space it will be all the better. After the stretching process three weeks so that it will stretch and adapt itself to the is over and the linoleum is settled and dried out, go over it again and trim the edges, because it will have stretched sufficiently under the sandbags to make it need trimming. Then remove this linoleum from the floor and out of the way and again take your whitewash brush with linoleum cement and put a good coat of it over the building paper that you have already laid. Then lay your linoleum over this cement and again put on your sandbags. After the linoleum has thoroughly dried; that is, in a week or ten days, have a careful person go over the floor with the cement, filling in the cracks between the widths and at the outer edges so that no water or fluids can settle underneath. If your baseboard is of wood and is not rounded at the bottom, you can take off the old quarter-round before you begin to lay your new linoleum and replace it on top of the linoleum. This will make a very excellent protection for the edges.

Some companies are now making a cement finish for rough concrete surfaces that will give you fairly good results. You will find some advertisements of these cement finishes in the pages of THE MODERN HOSPITAL, and any of these advertisers will do what they advertise to do.

System Made Top-Heavy

To the Editor of THE MODERN HOSPITAL:

A member of our board has recently had a talk with one of the editors of THE MODERN HOSPITAL and he has reported to us that it is your opinion that the effort to install a system of good accounting can easily be overdone and that you warned him to go slow about installing a complicated technic for accounting for goods received and for their distribution.

Our trustees are thinking about putting in an elaborate system of accounting, involving the employment of a trained, high-salaried storekeeper. We are a hospital of 135 beds, with an average of about 100 patients. If THE MODERN HOSPITAL can give us some advice on our problem we shall be grateful. A NORTHERN HOSPITAL.

It would hardly pay you to put in a system the administration of which would add an unavoidable expense far greater than any amount that could possibly be saved by having it.

We would have got down to some uniform standards of accounting and checking for hospital service long ago but for this one fact; there is no difficulty whatever about the establishment of entirely adequate checking systems; the only point is that most of them involve an expense entirely out of keeping with the results to be attained.

If our memory serves, your trustees told us you were about to install a business man as steward; we suggested that, in a hospital the size of yours, the superintendent ought to do the buying for the hospital. The amount of time and labor involved are not great and the superintendent is by all odds the best-informed person, or should be, to be charged with this highly important work. That is why we are insisting on the proper training of hospital administrators.

You can easily put in a system by which your housekeeper can attend to the details of purchasing the daily food supplies under the close personal direction of the superintendent. In our own work we have found that the housekeeper can do this very nicely if the superintendent will give her daily instructions and discuss the purchases with her every day. Then, when the purchase of an item comes along which is rather individual and out of the ordinary and which requires the finding of a new market or the getting of bids or arrangement for a better price, the superintendendent can attend to that himself either over the phone or personally.

There must, of course, be a checking system for the receipt of goods, with invoices, and for their distribution in the hospital, all of which is rather a simple matter.

For the convenience of the superintendent and to make his work easier, a running inventory can be kept of the staples, except daily food supplies, so that the superintendent at any moment can look at this inventory, under any article, and find exactly what is on hand, when the last was bought, how much, from whom, and the price that was paid. This is best kept as a card index, alphabetically arranged by products.

As for a high-salaried storekeeper, we doubt whether such a luxury would pay you. What you most need is a systematic, dependable man or woman who will watch the corners, see that the employees do not get things except under the prescribed plan of distribution, and on a proper requisition, leaving a receipt, and who will properly check in goods received, make proper disposition of invoices and distribution requisitions and receipts, and who will keep the superintendent posted about the state of the stores

when items run low. In a hospital the size of yours, we would select for such a job a dependable woman of middle age; and we would not care so much about her higher education, if she had enough to enable her to figure a little and write plainly.

Construction Costs

To the Editor of THE MODERN HOSPITAL:

If possible for you to do so, we are asking if you would kindly furnish us with information regarding cost per cubic foot and cost per bed of a few of the recently built hospitals of about 400-bed capacity. Any information at all regarding the above will be greatly appreciated.

AN ARCHITECT.

We have no exact data at hand as to the per bed or cubic foot cost of hospital construction within recent months.

We can only say this: about 35 cents per cubic foot, or $2,500 per bed, was about the average figure up to a year or eighteen months ago. Since that time the increase has been about 25 or 30 percent.

Of course, you know that the cost per bed or per cubic foot for the large hospital is higher than for the small hospital, and we think the proportionate increase for the large hospital has been greater than for the small institution, largely for the reason that we are dealing with structural steel construction and concrete, patent floorings, steel window and door frames, and the like, and in the small hospital we have not these expensive factors to consider.

School for Superintendents

To the Editor of THE MODERN HOSPITAL:

I am a registered nurse working as department head in one of our best hospitals. I have much to do with administrative matters, but I am wofully deficient in knowledge about many of our activities.

I want to qualify for the position of superintendent of a hospital, and I am writing to ask whether there is any school where administrative training is to be had.

A WESTERN WOMAN.

The Massachusetts General Hospital, of Boston; Bellevue, of New York; Grace Hospital, of Detroit; the Presbyterian of Chicago, among other hospitals, all give a good course to women. I believe only a limited number of students can be taken in any of these institutions, and you had better write to the superintendents. All these hospitals require pretty high qualifications in matriculants.

A correspondent sends to one of our British exchanges the following biblical quotations that he has met with in the course of his hospital duties:

Over a patient's bed: "O Lord, I am oppressed, undertake for me."

Over the bed of a patient suffering with severe anemia: "By your blood shall ye be saved."

On an egg sent as a gift: "Trust in the Lord."

On another egg: "She did her best."

The spirit of irreverence having been awakened in our correspondent by the foregoing, he recalls to our recollection the story of the gentleman who in a dripping state found instead of a towel in the bathroom a text, "The Lord will provide," but he had to dry himself with his pocket-handkerchief.

If a man look sharply and attentively, he shall see Fortune; for though she is blind, she is not invisible.—Bacon.

LETTERS TO THE EDITOR

"Plain Old-Fashioned Work" and the Delinquent Boy

To the Editor of THE MODERN HOSPITAL:

I have your letter before me and will endeavor to give you some of the information which you have asked me for. I owe you an apology for my apparent neglect in not attending to this matter sooner and can only offer as my excuse the threadbare one "press of business." The fact of the matter is, I have really had my hands more than full. I came into this position on July 1, this year, and when you figure that we have 500 boys in this institution and 49 officers, you may see that I have some job on my hands. I have been rattling around more or less like a peanut in a barrel, seeking the best course to follow, and have had but very little time for writing anything really interesting to people who are engaged in correctional work. However, I will do the best that I can.

You request a few words from me on "occupational therapy." My conception of the term "occupational therapy" is somewhat vague. If you were to ask me, in plain English, the plain question: "Do you think that WORK is beneficial to the average boy who is mentally, physically, and morally deficient?" I would know better how to answer you. For twenty years my personal contact has been with business people, representing during that time a wholesale house; in other words, I have been a "knight of the grip." It was not our practice to waste much time in preliminary skirmishing or to search Webster's Unabridged Dictionary for words, terms, and synonyms that the average mortal could not understand. "Occupational therapy" is too big a mouthful for me, but plain old-fashioned work and the good to be derived from it is something that I do claim to know something about.

The average boy who is sent to us is the boy who in the beginning did not have "a man's chance." Sometimes born of criminal parentage, very frequently born amid surroundings that are criminal and vicious, he follows "the easiest way"—in fact, the only way about which he knows anything—and as a result sooner or later the minions of the law swoop down upon him and he is sent to us branded, by a great many people at least, as a criminal. I find that whisky, criminal parentage, homes that are divided, selfishness, greed, lust, and other things that I might mention are very largely responsible for the average boy that is sent to us. He himself is simply the creature of circumstance, and is, I believe, in the eyes of Him that seeth all things, innocent of wrong intent. He is simply the sufferer from a system for which you and I and the other fellow are very largely responsible. When we realize, in fact, that we are "our brother's keeper," such conditions will not exist nor will boys be permitted to be born, bred, and reared amid such surroundings. In other words, my remedy is somewhat harsh, possibly in the eyes of a great many people unduly severe, it is to *stop raising criminals if you want to get rid of them.* If we would pay half as much attention to the breeding of our boys and girls as the farmer does to the hogs which he raises upon his place, I wouldn't have the job that I have today.

This condition exists, however, and must be met by the state. Now, the proposition is, how best to do this. Here in this institution we take the boy for what he should be worth, rather than for what he is actually worth, and, if we find out later that he is not what we supposed him to be, we make an effort to correct those tendencies which need correction. We offer him warm, comfortable housing, a clean bed, plain but substantial food, natural sur-

roundings that are as beautiful as any in the world, and we attempt by precept and example to influence him in the right way. In this we sometimes succeed, sometimes fail; possibly in the majority of the cases we fail.

Now, as to how we proceed to effect this reformation and as to the benefit to be derived from work. We do not as a rule try to take the boy from the city and make a farmer of him, neither do we take the boy from the farm and try to educate him along lines that would be useless to him on the farm. We try as far as possible to place each boy in the care of some officer proficient in certain lines—lines that seem as nearly as is possible to meet the demands of the boy in the case. We require during the summer months about eight hours of work, during the winter months about four and one-half hours, the other four and one-half hours during the winter time being spent in school.

In this school we have and teach the following trades and occupations: tailoring, patching and repairing, blacksmithing, carpentering, plumbing, steamfitting, stationary engineering, electrical engineering, firing, printing, bricklaying, painting, glazing, laundry work, cooking, baking, floriculture, horticulture, farming, gardening, teaming, and tree culture. In our schools we teach music; we also have a splendid band. Our grade school would, I think, compare favorably with the average public school up to the eighth grade. Boys who cannot read and write are required to attend school all day in the summer months when possible or when the press of work does not keep them out. The lad who is writing this article is one of the boys who has learned stenography in this institution and is now taking my dictation. We, of course, do not make all these occupations profitable in the sense that we make money out of them; in fact, very little attention has been paid to placing this institution upon either a self-sustaining or a profitable basis. Rather our efforts have been directed toward reclaiming the boy if it were possible to do so, and toward giving him some special training during his stay here that would enable him to go out in the world and hold his own. During the past three or four months we have practiced our belief in keeping him busy; we have crowded every day full with work, play, and the necessary rest, laying special stress upon the work. As a result we have been able to remit to our state treasury during the month of July the sum of $1,700; during the month of August about $1,800; during the month of September about $2,400; and for the month of October our remittance will be in excess of $4,500, so that our lads are not only keeping busy, but they are making money for the state of Missouri, in a measure at least, paying for their keep. Our boys are apparently very much interested in the work which they have been doing, more so now possibly than ever before, because under the present management we are giving each boy 33⅓ percent of his gross earnings. This is credited to him as an account in the Missouri Reformatory Bank. When he earns a dollar it is deposited to his credit; a deposit slip is made out in his favor, and a corresponding entry is made upon his bank book. When he requires money for certain purposes he is permitted to draw a check against this bank; this check when presented to the bank is paid, and, if the boy's record has been good and he has not received reports, he is permitted to visit the town of Boonville on Saturday afternoons, under the supervision of an officer, and spend this money himself. In the past he has been compelled to write an order for what he might wish and to take what some disinterested person might buy for him. The boys seem to enjoy spending their own money.

Work as a remedial agency is, in my opinion, the most valuable thing that we can offer a boy. Some of them, of course, do not like it, and, after working with them a short time, one can easily imagine why: infected with disease, weakened by months and years of doing nothing, sleeping in cramped quarters, where fresh air is unknown, eating poorly prepared food, possibly sometimes not eating at all, the boy has lost what little energy he might have had, so that at first we needs must be kindly disposed and somewhat lenient. Under the influence of our system of early to bed and early to rise, with plain, wholesome food, this condition soon begins to disappear. The boy's face becomes ruddy, his hollow cheeks are filled out, the poison of the cigaret is driven from his system, sleepless nights give way to peaceful, restful ones, energy, which has been driven from his system, begins to show itself, and the boy first becomes interested in playing, then he begins to show an interest in work, and soon he is vigorously attacking work that would make an older man wince, and very frequently, to use the expression of the boys themselves, "he eats it up." To the boy who possibly has never earned an honest dollar in his life, our training here offers the opportunity not only to make a living, but to make more than average wages. Our printers, painters, blacksmiths, carpenters, etc., acquire at least the rudiments of these various trades, and are in a position, should they so choose, to command more than a laborer's wage upon their release from this institution; so it may be with the boys who are in our other departments. The benefit of this work is twofold: it keeps the boy's mind busy, and it keeps him from those things that are devilish and mean; it strengthens his muscles and teaches him to plan and to think, and creates in the course of the day that tired feeling that can be displaced only by a sweet, refreshing sleep.

I hold to the theory that any boy who works, even if he is vicious, will ultimately redeem himself; the boy who will not work and is inclined to be vicious has a slim chance. Work is wholesome, work is honorable, work is what the Master put us here for. I try to teach our boys to regard it in this light. Our workers are our best boys; it is they whom we can trust and in whom we can place our confidence. During the four months that I have been in this institution I have tried in every way possible to inculcate in the spirit and mind of each boy a high regard for honor; I have told the boys that one who accepts a confidence and does not betray it was a man that could be honored and looked up to; as far as possible I have tried to put this into practice.

Our boys are now working without supervision so far as an officer is concerned, not only in this institution and within its confines, but also in the town of Boonville and in the surrounding country. We have tried to "do our bit" in a patriotic way by going out into the surrounding country and helping the farmers to save their crops. Even now, within the short time that I have been here, I have from six to eight boys, splendid fellows, who are out in the homes of our farmers working every day, earning an honest living, doing splendidly, and giving great promise of ultimately overcoming their shortcomings and developing into the men that God intended them to be. We trust them as far as possible. Each boy, so far, has measured up to the standard which we set for them, and each boy is making the effort of his life to overcome the evil which has pulled him down and which had caused his downfall. I may be wrong or I may be visionary, but I cannot help but believe that these boys will work out their own salvation, and, when this shall have been accomplished, I firmly be-

lieve that the answer to the question what influence, more directly than any other one thing, helped to bring about this condition, can be expressed in one little word of four letters, namely, WORK.

You ask me to say something about our industrial occupations. In our printing shop we print a little magazine, a sample copy of which I am sending you. In our boiler rooms, boys are taught firing, steamfitting, stationary engineering, electrical engineering, and how to install electrical fixtures. In our greenhouses and on our lawns boys are not only given the benefit of the fresh air, but they are taught to appreciate nature in all its beauty. Our lawns are covered with beautiful flowers and magnificent shade trees; our institution is situated in the famed bluegrass region of Missouri. In our greenhouses we propagate the flowers which are used to beautify our lawns; we also raise great quantities of flowers which are sold on the open market, as well as being used to decorate school rooms, dining rooms, sick rooms at the hospital, etc. We raise about seventy-five acres of garden, not only supplying this institution with a great abundance of green vegetables, but leaving a sufficient quantity to can quite a bit for our winter use. For instance, this year we have canned 15,000 quarts of beans (dried and green), cabbage, beets, corn, etc. In addition to this we have for our winter use several barrels of sweet corn packed in brine. We now have in our cellars thirty-six barrels of kraut; we have great quantities of strawberry preserves, grape marmalade, grape juice, apple butter, etc. Our orchard, which is not a large one, has this year produced approximately $3,000 worth of apples, enough for us to sell a carload, besides local sales of approximately $700 worth, which have been sold and for which we have been paid, leaving an ample supply to furnish each boy with apples each day during the winter months. I might add in connection that we do not sell the good apples and keep the defective ones, but rather we sell the defective ones and keep the good ones.

Our farm is composed of 540 acres. Our land produces wheat, corn, hay, etc., enough for our domestic consumption, with some to sell. While it furnishes healthful occupation for a number of boys, it is entirely too small for our use, and we have arranged for the coming year to rent 250 acres of land which, in addition to the 540 which we own, make a total of 790 acres under cultivation. All of this work will be done by our boys. They take not only a great interest and pride in it, but this year at least they feel that it is their duty to help produce just as much as they possibly can, so that the boys in France will not lack for food. We have large dairy barns and milk a herd of from thirty to forty cows, which supply us with milk, cream, and butter for our domestic consumption. There are now standing upon our grounds twenty-one buildings exclusive of the administration building. These twenty-one buildings are built from brick made by our boys in our brick yard and laid by our own bricklayers; the carpenter work was done by our boys in our carpenter shop. In other words, every building upon these grounds, with the exception of the main or administration building, was erected by boy labor from start to finish. Our plumbing, under the direction of a competent plumber, is installed by boy labor, not only furnishing a healthful occupation for the boys, but teaching them a valuable trade as well. So it is with the other trades, which I have mentioned above.

Lack of time and space will prevent me from going into greater detail. This institution is built around a system of which work is an important part. Our institution is not self-sustaining, but could be made so by intelligent management. We are rapidly reducing the per-capita cost, however, and expect within a very few years to make a showing along this line. The one thing that will enable us to make this showing is work, intelligent work. I might add that down here, in "old Mizzoo," we believe in work, not only as a remedial agency, but as something necessary to man's salvation. The Good Book decrees that we shall live by the sweat of our brow, and, like the old-time preacher, I believe everything in that book from "kiver to kiver."

A. G. BLAKEY,
Superintendent, Missouri Reformatory, Boonville, Mo.

Mr. Bott Not Responsible for Article in November Issue

To the Editor of THE MODERN HOSPITAL:

On page 365 of the November number of THE MODERN HOSPITAL you publish an article under the title of "Functional Training," which you attribute to me. I beg to say that I have had nothing whatever to do with the article in question. Moreover, your inaccuracy extends to your editorial footnote, as the said article is neither in whole or in part a reprint from the University of Toronto Monthly. I trust that in your next issue you will right this error as far as possible.

E. A. BOTT.

NOTE.—This error has been called to our attention by the Publicity Department of the Military Hospitals Commission of Canada also. It arose through the accidental carrying over from the October to the November instalment of a heading and footnote which should have been used only in October.

EDITOR.

Keep Books on Yourself

The vast majority of the hospitals of this country are groping in the dark. They do not know what they are doing. In the industrial world, owners of manufactories and producers in every field are employing experts to go into their institutions and give them a survey of their cost accounting and suggestions that will enable them to practice greater economy. Unfortunately, there are very few efficiency engineers in the hospital field whose work is of any value whatever, and superintendents are, as a rule, thrown upon their own resources in the matters of efficiency and economies.

In order to economize, that is, to practice economies that are of definite value, one must know just what he is doing at the present time, how he is doing it, and the results he is obtaining. Hospital superintendents are, as a rule, disposed to frown upon any system that requires work or study, on the ground that they cannot afford the expense. If our industrial organizations took this point of view, this country would be behind the whole world in experts and in general business success. We think that hospitals can profit just as much by careful analyses of what they are doing and what it is costing to do it as any business organization.

A few hospitals here and there are beginning to wake up in this regard and to put in the machinery by which they may know just what their institution is doing, what all its departments are doing, what it is costing to do it, and how they can do it cheaper and better. We must have more of this.

Perhaps the most important requisite for the industrial nurse is wisdom, therefore we would advise the very young woman to delay entering this particular field of work until experience has somewhat ripened her judgment. She will need to steer a very careful course between the maintenance of a sympathetic and watchful attitude toward the employees and one which will partake of the nature of coddling.—Mary S. Gardner, "Public Health Nursing."

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Forceps for Controlling Hemorrhage after Enucleation of Tonsils

BY DR. J. Z. BERGERON, Chicago.

So many new tonsil instruments have been presented to the profession during the last few years for the purpose of enucleating the tonsils with the capsule intact, that it must be rather difficult, for the beginner at least, to make a choice from all the instruments recommended, each one of which, according to the inventor, is the best for the purpose.

It is a fact, however, that, in spite of the claims that may be made for one instrument or another that its use will prevent hemorrhage from occurring after enucleation, this will occur now and then, no matter what instruments may have been used in the operation. For the purpose of arresting hemorrhages promptly and effectively, several devices have been invented, such as clamps with specially shaped pads to fit into the tonsillar cavity, to be left in position for hours afterward if necessary. Serious objections have been raised against this procedure, as well as against the use of metal suture clips, etc., on account of the trauma which is produced and other unpleasant after-effects. In order to reduce these disagreeable after-effects to a minimum and to stop tonsillar hemorrhage promptly and effectively, Dr. Bergeron had the pillar compression forceps constructed, which are illustrated in Figs. 1 and 4. The instrument (Fig. 1) is used to squeeze the pillars together over the tonsillar fossa (Fig. 2) after the tonsil has been enucleated. The gooseneck shank is so constructed as to keep the handles outside of the cheek while the forceps are in place. The compression is made by two corrugated tips flanging slightly at the end, thus

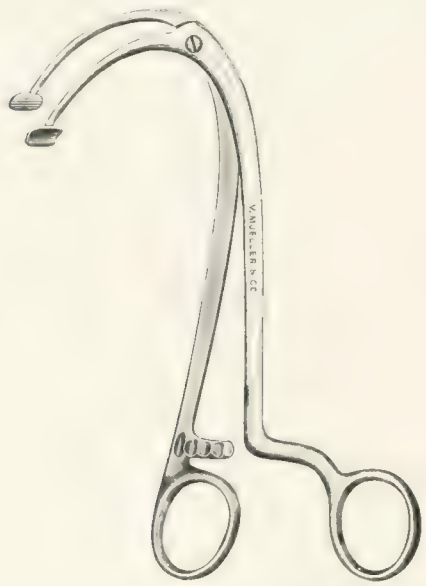


Fig. 1. Bergeron gooseneck pillar compression forceps.

Fig. 2. Bergeron straight pillar compression forceps

better regulating the degree of pressure exerted over the pillars. The size of the compression tips is ⅛x⅜ inch. Dr. Bergeron advises that the instrument should be used in the following manner:

After one tonsil is removed, the curved compression forceps are applied high up in order to compress the vessels in that area of the tonsillar fossa, the posterior blade being against the posterior surface of the posterior pillar, while the anterior blade will fit against the surface of the anterior pillar. The most important point is to pass the compression forceps to a sufficient distance to-

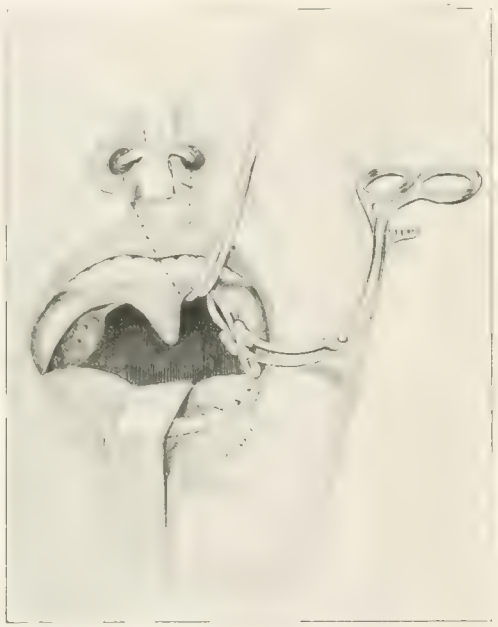


Fig. 3. Curved pillar compression forceps in position and out of the way of operator.

ward the lateral wall of the throat, so as to include in the bite that portion of the posterior pillar which is next to the constrictor of the pharynx, the floor of the tonsillar fossa, and that portion of the anterior pillar next to the mucosa of the cheek.

If bleeding occurs from the bottom of the fossa, the straight forceps (Fig. 4), which are made on the same principle as Fig. 1, except that the shanks are straight, are applied over the lower portion of the fossa. After a few moments the forceps can be removed or left on until the opposite tonsil or adenoid tissue is removed. The

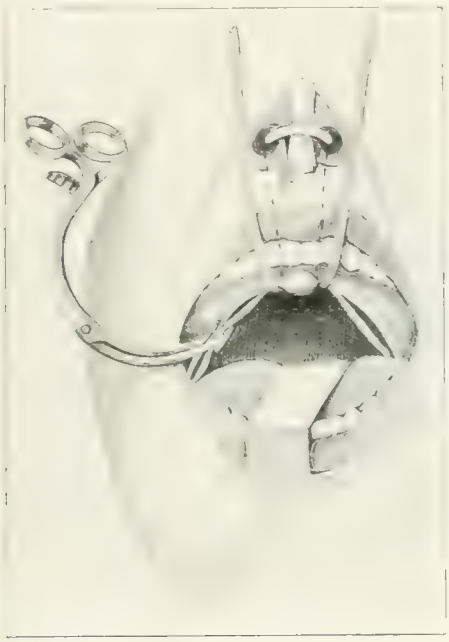


Fig. 4. Both tonsils removed, forceps in situ and ready for removal of adenoids.

same results can be obtained in controlling a secondary hemorrhage, and a factor of great importance is that the pillars are in no way injured by the force of the compression, so that, in case it should be necessary to introduce a suture or two for the purpose of obtaining a more prolonged compression of the fossa, this can be done without the fear of their tearing out because of previous interference with the vitality of the tissue.

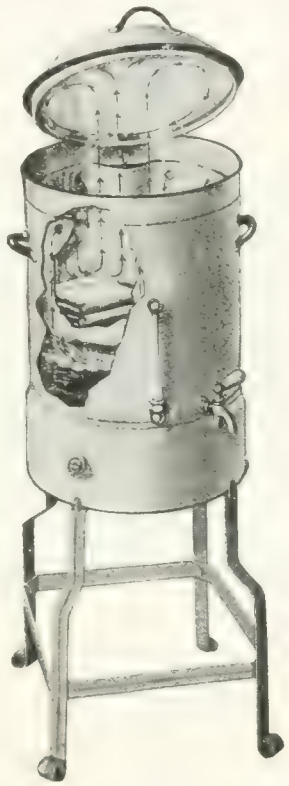
Every surgeon who has performed many tonsillectomies has had the unpleasant experience of being called from his bed to care for a post-operative hemorrhage. We are reliably informed that by the use of these forceps a number of such hemorrhages have been promptly arrested by the house surgeons at the hospitals without having to call on the surgeon for assistance.

This fact, more than any other, has induced us to bring these instruments to the attention of hospital authorities.

The Gem Sterilizer

Once in a blue moon a new idea for the reduction of labor and expense is offered for the consideration of hospital superintendents. The wringing of boiling water out of hot packs is one of the unpleasant jobs the nurse has to contend with. The old method of preparing hot packs and stupes, all too prevalent in the average hospital, is being superseded by a little machine which has proved to be a big time-saver for the nurse, and, therefore, at a small investment, the superintendent is enabled to reduce his overhead expense, and, in addition to that, he is able to give better service to the patients because the hot pack from the Gem is always ready for instant use, and the patient does not have to wait for the nurse to heat the water and wring out the pack.

By a patented device the condensed steam is taken care of in the cover, and the packs are removed with exactly the same amount of moisture that they contained when placed in the machine, no more and no less. The temper-



Gem sterilizer for gauze dressings and hot packs.

ature of 212 F.. is always present, and the packs are unquestionably sanitary, and, being freer from moisture than the hand-prepared pack, the patient can stand greater heat, and will receive, therefore, a greater degree of relief. The packs are steamed, have plenty of heat, and yet are not water soaked.

A number of hospitals have adopted this sterilizer for their personal use in taking care of their gauzes, blankets, glass tubes, etc.

BOOKS RECEIVED FOR REVIEW

Impotence and Sterility with Aberrations of the Sexual Function and Sex-Gland Implantation. By G. Frank Lydston, M. D., D. C. L. Pp. 333. Cloth, price $4 net. The Riverton Press, Chicago, 1917.

Mental Adjustments. By Frederic Lyman Wells. Pp. 331. Cloth, price $2.50 net. D. Appleton & Company, New York, 1917.

A Thousand Health Questions Answered. By J. H. Kellogg, M. D., LL. D. Pp. 775. Cloth, price $2.50. Good Health Publishing Company, Battle Creek, Mich., 1917.

Surgical Nursing in War. By Elizabeth R. Bundy, M. D., Member of the Medical Staff, Woman's Hospital, Philadelphia, etc. Pp. 184, with 37 illustrations. Cloth, price 75 cents net. P. Blakiston's Son Company, Philadelphia, 1917.

Re-Education. An Analysis of the Institutional System of the United States. By George Edward Barton, A. I. A., Director of Consolation House, President of the National Society for the Promotion of Occupational Therapy. Pp. 119. Cloth, price $1 net. Houghton Mifflin Company, Boston, 1917.

A NUTRITION CAMP FOR BOYS*

Defective Nutrition in Many New York School Children—Results Obtained in a Boys' Camp

An examination of 221,708 New York school children, made in 1915 by school doctors using the Dunfermline scale for marking nutrition, showed defective nutrition in 22,916, or 10.34 percent, writes Edward F. Brown in the *Journal of the Outdoor Life*. In order to find out what effect fresh air, suitable food, exercise, bathing, etc., would have on these children, the New York Association for Improving the Condition of the Poor, in cooperation with the

Fig. 1. The land of boy-builders.

New York *Globe*, developed and maintained a camp for boys between 10 and 14 years of age, at Southfields, N. Y. Mr. Brown, who is superintendent of the Bureau of Welfare of School Children of the society just mentioned, describes the work done at the camp and the results obtained up to the time the camp closed (September 16, 1916).

The camp opened July 1. It is on a tract of land owned jointly by the states of New York and New Jersey. A

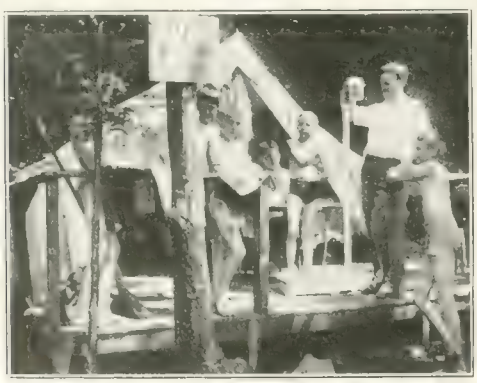


Fig. 2. Weighing the boys to see that any needed individual attention is given.

large pavilion was erected for a mess-hall. The boys slept in open tents.

Twenty-four days was the average time spent at the camp by 428 boys. Of these 100 were segregated for the purposes of the experiment. The records of 12 boys are not complete, and the data obtained are based on 88 boys.

All the children received three substantial meals daily, and milk and whole-wheat crackers in the middle of the morning. Whole-wheat bread was used exclusively. No coffee was provided. The attempt was made to provide a diet not only adequate, but also balanced.

Reveille was sounded at 7 a. m., and the boys immediately raised the sides of their tents and set their cots and blankets out in the sun and air. Twenty minutes later came the signal for a setting-up drill of five minutes, followed by a dip in the lake or a washing up. At 7:45 mess-call summoned the boys to breakfast, after which they replaced their cots and tidied up their tents and the surrounding ground. Swimming and boating were in order when assembly-call sounded at 10 a. m. (Most of the boys —80 or 90 percent—could not swim on arrival at the camp. Practically all—over 95 percent—could swim on their return to the city.) Fishing, rowing, games, hiking, etc., followed the bathing period until 11:45, when milk and crackers were served. After the noon dinner, rest for one hour was compulsory. For the rest of the afternoon the

Fig. 3. Not really sleeping—but this is the way they slept.

boys were allowed either to join in some diversion planned ahead for them or to follow their own inclinations until supper at 6. At 7:15 the evening camp-fire was lit, and around it stories were told and songs sung. Taps sounded at 9.

The boys were weighed when they first came to camp and at intervals of from five to nine days thereafter. The average daily gain in weight was three and one-half times as much as the normal increase to be expected from boys of this age. The hemoglobin showed an average gain of 6 percent by the Sahli test and 4 percent by the Tallquist. There was an average increase of 9 percent in the red blood corpuscles for each child.

Exclusive of executive and administrative salaries, the total cost of the experiment was $9,113. This makes an average of 84 cents a day for each boy.

*The illustrations used herewith are shown by courtesy of the *Journal of the Outdoor Life*.

The official Institution Quarterly of Illinois announces that the Department of Public Welfare has authorized the Psychopathic Institute to employ Mrs. Eleanor Slagle as superintendent of occupations in the state hospitals. Mrs. Slagle is one of the best-known women in this line in the whole country. She has been trained in Phipps and Boston Psychopathic institutes and has worked in several states. Her duties will be to organize industries in the various institutions, and to instruct attendants and nurses in the wards in the art of stimulating the interest of patients in work of one kind or another. There has been great need for this type of organization, and the employment of Mrs. Slagle is a distinct advance in Illinois.

Self-trust is the first secret of success—Emerson.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. X *February, 1918* No. 2

THE TRANSFORMATION OF A DWELLING HOUSE INTO A HOSPITAL

Requirements of a House to Be Used as a Hospital—Evolution of a New England Homestead—Two Stages in the Growth of the Charles Choate Memorial Hospital

By EDWARD F. STEVENS, Architect, Boston

IN these days of tense feeling on the subject of the care of the soldiers at the front and of the desire on everyone's part "to do his bit," many offers are made of dwellings and of buildings of all kinds for the housing and care of returned or sick soldiers. Every hospital is throwing its doors wide open, and, in many cases, offering to double its capacity by utilizing its "waste" or unused space, or by erecting temporary units of portable

Fig. 1. The Choate homestead at Woburn, Mass., as it originally stood.

or "knock-down" construction, or by the utilization of existing buildings near the hospital proper. Many of the fine palaces and beautiful homes in France and Belgium have served for hospitals during the present world war.

The larger and more symmetrical the house, the better the hospital it will make. Not every house will develop into a good hospital, however, for there are many essentials required by the hospital which are not required in the house. The house, if it is to be used as a general surgical and medical hospital, must have a room which can be adapted into a well-lighted operating room with its adjacent utilities; also rooms of sufficient size to accommodate a reasonable number of beds; and rooms for the cooking and serving of meals. When a house of this character can be found, then it is practicable to utilize it for a hospital, with proper care of details.

The selection of the house to be used must have the same care as the selection of a site for a new hospital; that is, there must be sufficient light and air about the building to insure good ventilation;

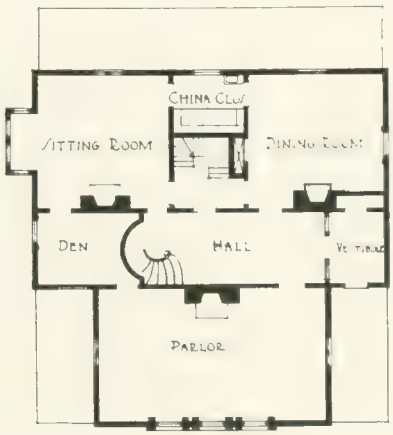


Fig. 2. First floor of the Choate homestead before modification.

there must be freedom from disturbance from adjoining property, and, if possible, a pleasing view from the building. Care should be taken to select a house where the sunshine penetrates the principal rooms.

The transformation of a house into a hospital, illustrating this paper, has been made by me at two different periods — in 1909 when the old

Choate homestead at Woburn was given to the Woburn Charitable Society, and again in 1916 when that institution, growing from the small beginning, was developed into a hospital of moderate proportions and capable of still further increase.

In the first development it will be seen how, with very modest changes, a fairly workable hospital was evolved. The exterior of the Choate

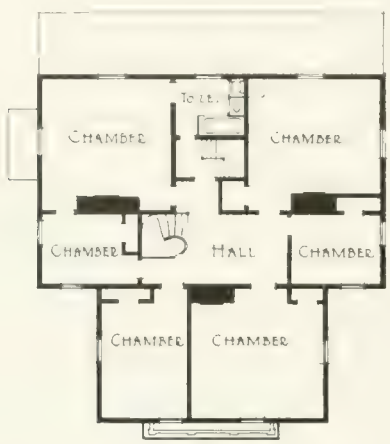


Fig. 3. Second floor of the Choate homestead.

homestead (Fig. 1) was of the type one often encounters in New England especially, built in the sixties, with great double parlors, heavy cornices and finish, stately dining room and serving pantry, and basement kitchen. All of this, however, lent itself to "hospital treatment," as will be seen by comparing the plans of the original house

Fig. 4. The Charles Choate Memorial Hospital as produced by the first modification of the Choate homestead.

(Figs. 2, 3) with those of the replanned hospital (Figs. 5, 6, 7). The funds available for alterations were small and the changes necessarily restricted.

The grand parlor made an excellent five-bed ward without change, while the sitting room served as a children's ward, and the little den as the hospital office. The circular stairs had to go, and were replaced by more commodious stairs, up which the stretcher could be carried. The dining

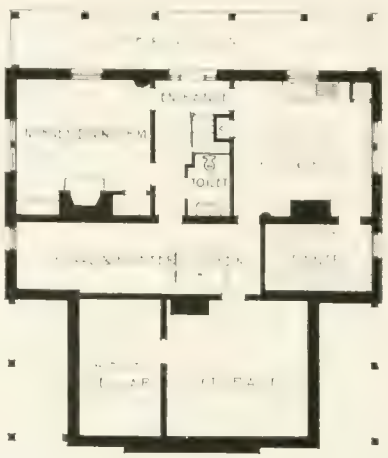


Fig. 5. Basement floor plan of the Choate Hospital as first remodeled. The laundry has been made into a nurses' dining room; otherwise little change has been made.

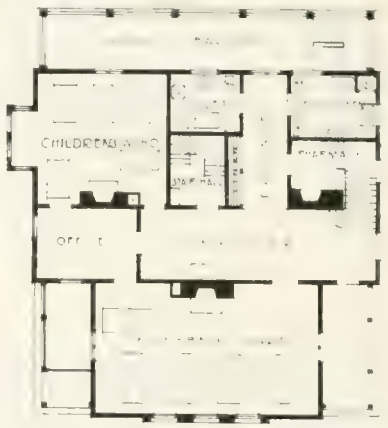


Fig. 6. First floor of the Choate Hospital after first remodeling. The parlor and sitting room have been transformed into wards; the den has been made into an office. The circular stairway has been removed.

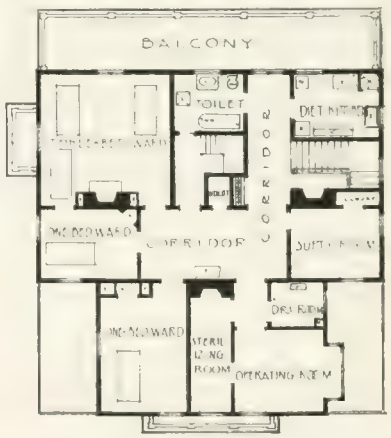


Fig. 7. Second story of the Choate Hospital after first remodeling. One large bedroom has been transformed into an operating room and another into a diet kitchen. The others have become wards and superintendent's room, respectively.

room was cut into a corridor, a serving kitchen, and a linen closet. The garden porch served as an airing balcony.

The second story also developed simply and inexpensively. A good operating room and accessories were made from one of the large chambers, while another served as a second-story serving room. The balcony was extended to this story.

The changes in the basement were small. The kitchen needed no change; the old laundry served nicely for a nurses' dining room; in the attic, the servants' rooms were used for nurses. Thus the Charles Choate Memorial Hospital started out as a complete fourteen-bed institution.

Fig. 8. The Choate Hospital as it now appears after additions and final remodeling.

quests and generous donations, so that in 1916 the much-needed expansion was authorized.

To plan for the growing needs of the present and the future and to preserve and bring into harmony as much of the old building as possible with the new was the problem now to be worked out. The greatest needs, were, first, better operating facilities; second, more private rooms; and third, a maternity department worthy of the name.

But few changes were necessary in the original building, as will be noted on plans (Figs. 9, 10, 11,

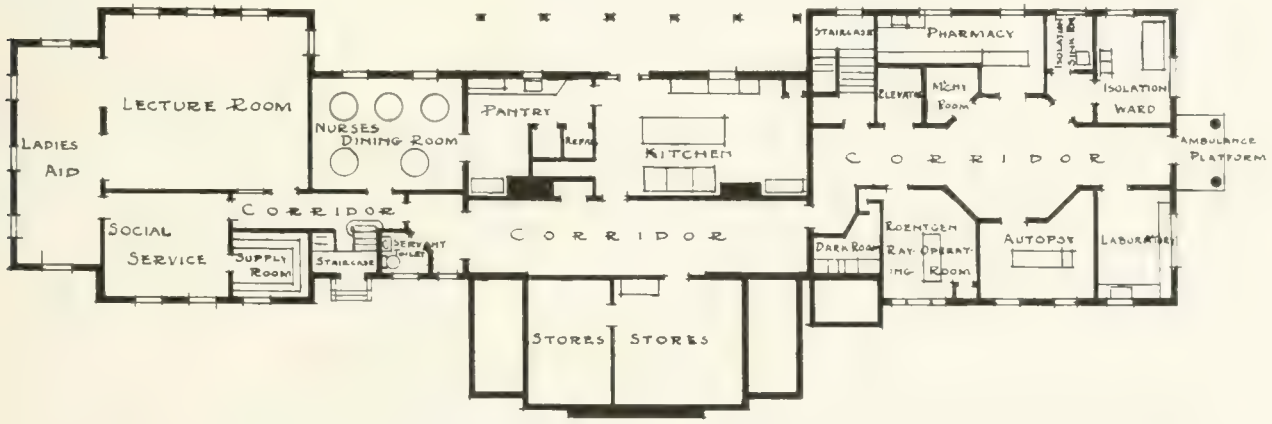


Fig. 9. Ground floor of the Choate Hospital in its present form. In this and the succeeding plans the added wing on the right is known as the Dr. John M. Harlow Surgery and the one on the left as the William B. Beggs Memorial.

During the eight years of successful management after the opening, friends of the hospital, seeing the splendid work being accomplished with the simple equipment, came to the rescue with be-

12). The kitchen was enlarged; the old nurses' dining room was made into cold storage and a serving room for the new dining room; the stairs were removed and the serving kitchens enlarged;

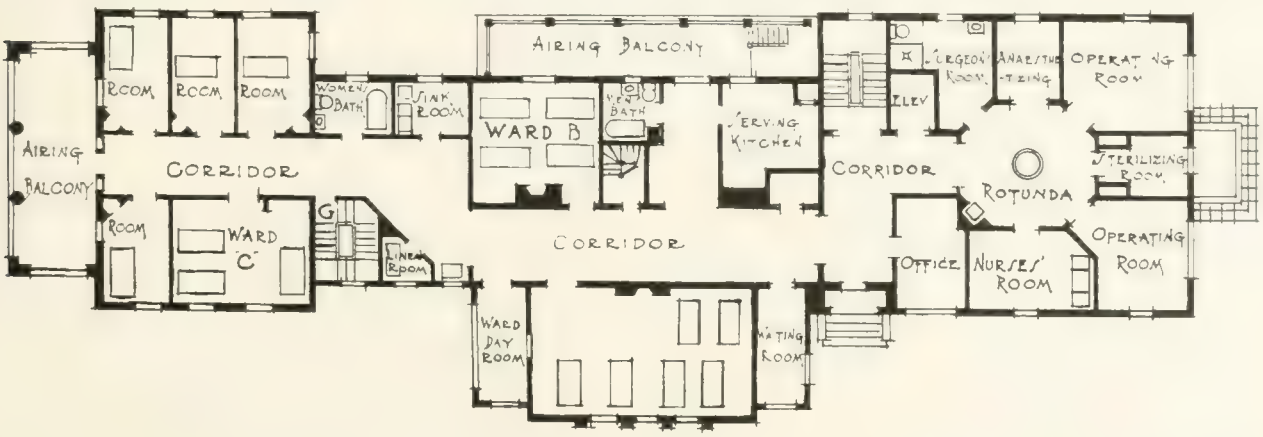


Fig. 10. First floor of the Choate Hospital. The operating rooms and other rooms in the surgical suite center about a rotunda, in the center of which is a surgeons' scrub-up fountain.

the old operating suite was turned into a maternity delivery room and bath room, and one of the private rooms taken as a creche.

The new portions are planned to meet the deficiency of the old building and the growing needs of the community. A new main entrance and ter. Large north windows, extending above the ceiling, give the best of daylight, while four special artificial lights illuminate the operating rooms at night.

The ambulance entrance is below the surgical department and adjoins the laboratory, the x-ray,

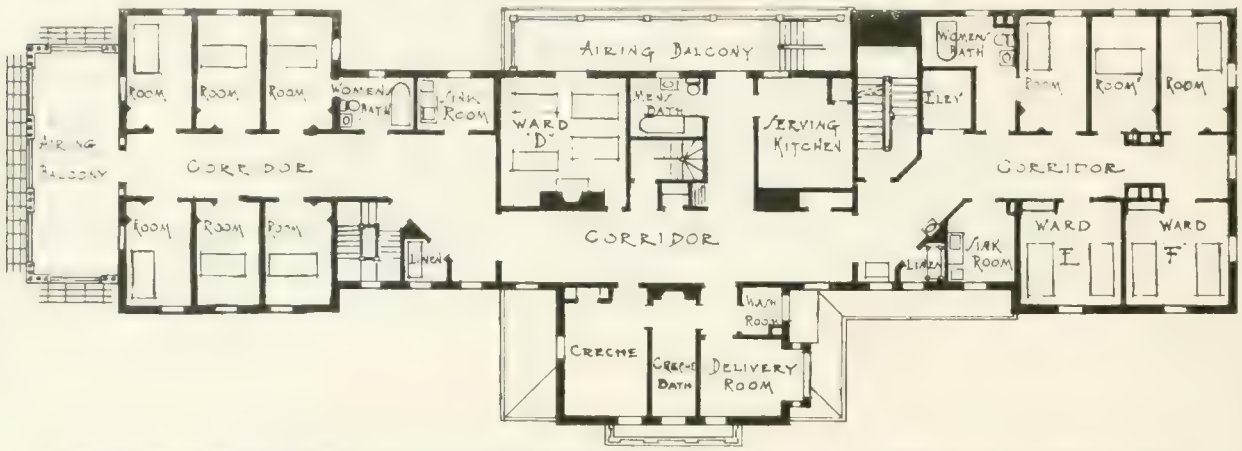


Fig 11. Second floor of the Choate Hospital. The former operating room (in the center) has been taken as a delivery room.

office are created, and a new operating department is provided.

The operating department consists of two north-lighted operating rooms, a sterilizing room, an anesthetizing room, a nurses' work room, and a surgeons' locker and dressing room. All these rooms are grouped around an octagonal rotunda, in the center of which is a triple scrub-up fountain, designed not only as a necessary utility, but

and the autopsy rooms. A small isolating suite, with special plumbing, is provided, as well as drug and storage rooms.

In the basement of the medical wing are located the nurses' dining room, the lecture and ladies' aid rooms. An automatic electric elevator connects all stories. The first story of the medical and the second story of both the surgical and medical wings are planned for private patients,

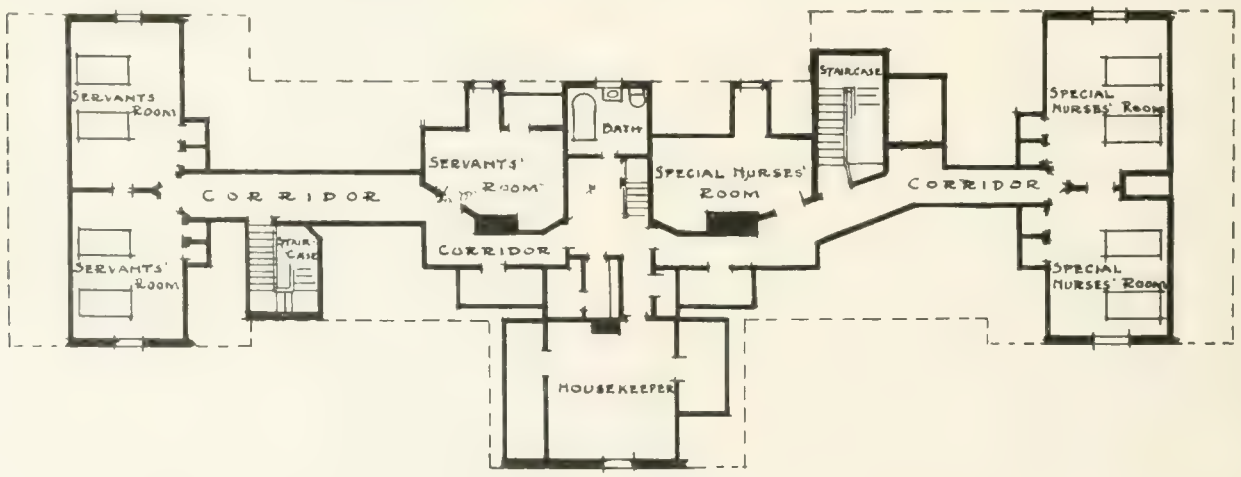


Fig. 12. Attic floor of the Choate Hospital, devoted to housekeeper's, special nurses' and servants' rooms.

also as an architectural feature of the department. The base of the fountain is of mosaic; the bowl is porcelain enameled, 40 inches in diameter; the water is controlled by the latest type of elbow valves; and the whole is surmounted by a utility shelf of opal glass. The large size of the rotunda leaves ample room on all sides for the wheel stretcher to pass. The floor of this department is of terrazzo and the walls are enameled hard plas-

mostly single rooms being planned. At the south end of the building airing balconies are provided.

Sink rooms, toilets, baths, and linen rooms are arranged for the efficient carrying out of modern hospital service. The floors of all wards, rooms, and corridors are covered with linoleum; the doors are without panels; and all detail of finish is of plain, simple construction.

For the mechanical plant, the old stable was

utilized, affording plenty of room for the heating and laundry equipment.

These remodeled buildings, with the nurses' residence (also a donation) on the same site, make a complete thirty-three-bed hospital, and show the efficiency and enterprise of the president of the hospital, Mr. Elmer E. Silver, to whom great credit is due.

ECONOMY IN THE MANAGEMENT OF SMALL HOSPITALS*

Reliable and Practical Methods for the Small Hospital—Principles of Efficiency in Various Departments—Methods of Increasing Hospital Incomes—Efficiency the Road to Economy

By WALTER MORRITT, Ph. D., Formerly Superintendent of Beth-El Hospital, Colorado Springs, Colo.

THREE years of war prices have made most hospital superintendents familiar with specific substitutes for standard supplies and specific ways in which to cut expenses. State conferences of hospital workers and our excellent hospital magazines have likewise instructed us as to advisable substitutes and economies.

I shall deal, therefore, not with a list of items of saving, but with the general principles of efficiency which make for economy. With a knowledge of efficient general methods, the specific applications can easily be made. Sufficient examples will be given to illustrate the principles and stimulate discussion.

This paper will deal only with the problems of the small hospital (under 100 beds), and much that is said will not apply to large institutions. I am speaking for the hospital with no endowment and little or no income save that from the patients—the hospital dependent on philanthropic individuals for help, and called upon to do its fair share of the charity work of the community, say, one-fourth of its total volume of business—the hospital which has to meet more or less keen competition from other hospitals—the hospital without a staff, open to all reputable doctors, the typical western hospital.

I. PRINCIPLES OF ECONOMY FOR THE ENTIRE HOSPITAL

Economy is no more required now than formerly; waste is waste at any time, and whether it be of supplies or energy. The keynote of this paper is *efficiency*. Get efficiency and you have economy. A few general suggestions may be of service.

1. In these times of stress it is poor economy to cut down your working force too much. An extra head nurse, for instance, will often more than save her salary through wise supervision and coordination of the work of pupil and special nurses and the careful conservation of floor supplies.

2. Raise salaries, rather than cut them, and thus stimulate your workers to better efforts and save the inevitable loss following change of workers.

Do not raise salaries on general principles, but because the particular worker is worth the particular raise. It is useless to raise the pay of an inefficient worker. Get rid of such workers and pay more to a better grade. Often, however, a steady plodder is more valuable than the brilliant but erratic worker.

3. Strive for a loyal, harmonious staff of workers on whom you can throw responsibility—and then throw it. Do not try to run each department yourself; know what is going on, but do not interfere too much.

4. Secure a corps of workers interested in the success of the whole hospital, not simply in their own departments—interested in securing the friendship of the general public for the hospital. "The public be damned" policy should find no shadow of expression in any hospital worker's creed. Rather, it should be: We please to serve and serve to please.

5. Encourage your heads of departments to save. What each department secures from the sale of waste, such as old rubber, paper, rags, bottles, barrels, junk, scrap, garbage, etc., should be given to that department to be spent for little extras or improvements as the head of that department may see fit. Much valuable equipment may thus be added to the hospital from this source and much good feeling engendered.

6. Occasional meetings of the heads of departments for discussion of problems are invaluable, and also meetings, at longer intervals, of your entire working force.

7. In a large hospital, printed notices and pleas for economy are necessary, but in a small one, personal appeal is much better, given to groups of workers or to individuals.

II. PRINCIPLES OF ECONOMY APPLIED TO VARIOUS DEPARTMENTS

1. *The Business Office.*—Have a complete and detailed system of bookkeeping regardless of the

*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

cost. An inexperienced but intelligent bookkeeper can soon be taught by an expert accountant, and much money will be saved. A pleasing personality in the front office is a valuable financial asset; affability is an element of success in any business office. When possible, the bookkeeper should present all bills to patients. Do not trust to head nurses or pupil nurses. Above all things, no not send bills in on patients' trays. You will often thus spoil a patient's appetite and fail of a prompt collection. There should be absolute and cordial cooperation between the business office, the superintendent of nurses, and the head nurses on the floors. The office should be notified promptly when patients are to leave the hospital and all extra charges reported. It is hard to collect charges for extras after a patient has paid his bill and left the hospital.

2. *The Kitchen, Housekeeping, and Dietetic Departments.*—These departments are in some respects the most difficult and most important in the entire hospital. In these departments the chance for waste is tremendous. Therefore have the best manager you can get; then let her do her own planning and buying. This will give the best results possible. In general, do not buy too far ahead—now. Use all really practical labor-saving appliances. The cafeteria plan for the nurses' dining room is economical. Encourage your help, as far as possible, to live outside the building. Let the departments have the use of money from the sale of garbage, etc., for the purchase of anything needed in the kitchen or diet kitchens. See to it that night nurses do not have too free access to refrigerators and supply closets.

3. *The Operating Rooms.*—Here, again, successful economy depends on your supervising nurse. Pay well and get the best. If possible, require surgeons to furnish their own gloves and sutures. Ether, too, should be supplied by the anesthetist. We have not yet been able to bring this about in our part of the country for the lack of cooperation among the hospitals. We have no state organization. The fee for major operations should vary with the length of the operation—say, $10 for the first hour and $5 for each additional hour or fraction thereof. This, too, is an ideal with us, but obtains in some parts of the country. Gauze from clean cases is washed, boiled, and resterilized by us. Catgut from clean cases is saved, sorted, and boiled for half an hour in absolute alcohol, then used for septic cases. All rubber gloves are patched and used on the floors for dressing. Old rubber gloves are used instead of buying rubber dam. Soap and water is used for washing operating room furniture instead of lysol, alcohol, or carbolic acid. Fifty percent alcohol is used for antiseptic purposes instead of 75 percent or 95 percent. Solutions such as lysol, alcohol, or any other antiseptics are saved and reused. Sterile packing is made from bandages. Cotton pads are made thick in the center where needed and thinner at the ends, thereby saving much cotton. Oakum pads are used on the floors, made from oakum, newspapers, cotton, and gauze. These save much linen.

4. *Floors and Wards.*—Here your superintendent of nurses and your head floor nurse hold the key to the situation. Patients' charts of various kinds can be printed on both sides of the paper to good advantage. Your printing bill is reduced and your charts to be stored away are greatly reduced in bulk. Use a limited number of third-year nurses for special duty. This usually suits the patient, because it saves him expense, and the financial return to the hospital is clear profit. Guard, however, against crippling the floor work or using inexperienced nurses in critical cases. Teach nurses the cost of supplies used. Require accurate record of supplies and drugs used on the floors. Watch special nurses carefully in their use of linens, towels, foods, and other supplies. Keep linen closets locked and issue only on requisition. See that accurate charges for all extras are sent promptly to the business office. Special nurses are apt to be careless in this respect. Hold the night supervisor responsible for extinguishing all unnecessary electric lights, gas plates, and electric pads and heaters. Much electric current is needlessly burned in many hospitals.

5. *Drug Room and Laboratories.*—Do not trust to an intern for this work. Have a druggist and pathologist. If he has a good working knowledge of chemistry, so much the better. Such a man will make the drug room and laboratory sources of profit instead of loss, as is too often the case. The same thing applies to the x-ray department. Your druggist should make frequent visits to the floors, examine the floor supply of drugs, and see that the proper charges are being made and proper economy observed. Let no small charge escape. The man I have in mind not only makes up many economical compounds and formulas, thus saving much money, but also makes all library paste, and red and black ink, saving us 75 percent on these items, which in one year means a considerable saving. The ink bill in the average hospital is a big one. All pathological and x-ray work should be done by a member of the hospital force. This saves giving 50 percent of your fees to an outsider and gives your patronizing doctors more efficient and satisfactory service.

6. *The Power House.*—As elsewhere, the best is the cheapest. A good engineer who has the inter-

est of the whole institution at heart not only will run the boiler plant economically and save much coal and steam, but will look after all ordinary repairs to hospital plumbing and steam-fitting and keep the laundry machinery in good shape. He will also make many little appliances called for by doctors and nurses for special cases. He will save much money annually in repair bills, and by making the apparatus just mentioned he will contribute greatly to the satisfaction of doctors, who are always pleased when favors of this kind are done for them. Special service always pleases a doctor. Do not save on electric power to run your elevator at the expense of tired nurses. Let them use the elevator all they want. Your engineer can, however, help decrease the number and time of lights burned. This past summer our engineer looked after and cultivated nearly an acre of vegetables, from which $250 worth of fresh garden truck will be harvested.

7. *Laundry and Linen Room.*—These two can be discussed together and should work in the closest cooperation to secure best results. In a small hospital it is not always practicable to count the linens as they enter and leave the laundry, but where this is done without employing another worker it certainly pays. It is well to let your nurses know how many pieces are being used daily and weekly. It exercises a check on their requisitions. All approved and standard labor-saving machinery should be installed in the laundry, even if money has to be borrowed to do it. Often good second-hand machinery can be obtained at small cost. At the last hospital where I served we secured for $1,500, installed, what would have cost $4,000 new. A skilled head laundress will save supplies, and a good superintendent of nurses will see to it that aprons, etc., are so made that they will not need hand ironing. She will also see to it that nurses are limited as to the quantity of both personal and hospital laundry they may send in. Do not house or feed your laundry employees.

III. METHODS OF INCREASING HOSPITAL INCOME

Getting something for nothing is good economy. Appeal to the farmers and church organizations for fresh and canned fruit and vegetables. Appeal to the women's and church organizations of your patronizing territory for towels and linens of all kinds. It is not difficult to secure annually several thousand dollars' worth of such supplies with the right appeal and on the strength of the charity work you perform. The sole cost to the hospital need be only the freight and cartage and cost of glass fruit jars, which should be paid by the hospital and the jars returned to the farmers when emptied, for refilling the following year. Raise your rates. Most hospitals are giving service at less than cost. Now is a good time to raise, if you have not already done so. The public expects it. "Everybody is doing it." Raise the price for board of special nurses. Too little is usually charged. Ten dollars a week would be a fair charge in most small hospitals.

CONCLUSION

I end as I began: Efficiency is the road to economy. A hospital conducted on the general principles here outlined will get value received for money expended, give full value for money received, meet its bills, please and serve the public well, and weather the present financial storms.

Of course, in addition to all that has been said, the hospital superintendent should also have the backing of a strong board of influential and practical citizens of both sexes who will give him a free hand and back him up in his policies.

My purpose in this paper has been to appeal for a raising of standards of service in these trying times rather than a letting down, believing that giving and getting the very best is the truest economy.

I hope I have said that which shall stimulate a healthy and profitable discussion.

Be Part of Your Local Red Cross

Help your community with its Red Cross work; be on the central committee if they ask you. Just now, when this whole country is full of the spirit of helpfulness, do your share. It is certain that the men and women of your city will appreciate the help your experience can give them in the classes on nursing and first aid, in the purchasing of supplies, and in the efficiency you can help to produce in their work. Your hospital and the people of your city will be drawn closer together by your help and the spirit in which you give it.

About Saving Soap

All cake soaps should be bought in quantity and laid away on the top shelves to dry out for some time before they are used. Oval cakes of soap waste less than those having square corners. If your bill for white cake soap seems more than necessary, watch the requisitions, see if your supervisors know if cakes are left to melt in wash-basins, or thrown into the hopper with wash-water, and whether they know if the partially used cakes are conserved for further use. If your bill for green soap seems out of proportion, look around and find how much is leaking out of the soap containers, how much is used for shampoos, and how much is going into the scrub pails, and if accurate measurement is used in making solutions.

All ceremonies are in themselves very silly things; but yet a man of the world should know them. They are the outworks of manners and decency, which would be too often broken in upon if it were not for that defense, which keeps the enemy at a proper distance—Chesterfield.

SARANAC LAKE GENERAL HOSPITAL, SARANAC LAKE, N. Y.

A Hospital Designed to Meet Present Needs and Permit Enlargement in the Future—First Unit Arrangement

By HARRY LESLIE WALKER, Architect, New York

THIS hospital was made possible for the village of Saranac Lake through the generosity of two persons who came to this place in the Adirondacks in their search for relief from incipient tuberculosis. While there they grew to realize the deplorable lack of facilities for caring for those suffering from diseases other than tuberculosis, and as a result they furnished the funds for the erection of this building.

The general plan adopted as being best suited to

Fig. 1. Saranac Lake General Hospital, Saranac Lake, N. Y.

the orientation of the site selected and to the inevitable problem of future enlargement to provide for the growing needs of the community consists of a two-story central portion containing the administration facilities and the operating suite, with nurses' rooms above, and a one-story wing on each end built at an angle of 30 degrees with the longitudinal axis of the central building, these wings containing the patients' rooms. At the present time only the right wing has been built and the ward at the end has been divided so as to provide rooms for patients of both sexes.

At the rear of the right end of the building was built another small wing, containing two single bed rooms, a room for a nurse, bath room, and private porch, all served by an individual exterior entrance and separated from the main building by means of doors at each end of a short passageway. This rear wing was originally planned for two possible purposes; that is, for use either as an isolation ward or as a separate set of rooms for a patient who might desire rather unusual accommodations distinctly separated from the remainder of the building. After the main building was completed, however, another friend of the hospital furnished the funds for the erection of a small isolation building, and so this rear wing has always been used for general patients.

The present capacity of the building is twelve beds, and when the left wing is constructed the capacity will become twenty-two beds.

In the first story of the central portion are arranged the reception room, superintendent's office, linen room, the staff dining room together with the serving pantry, store pantry, and main kitchen, with the operating suite in the rear. In the superintendent's office are a lavatory and large cases for medicines and supplies, while the main kitchen and serving pantry are provided with necessary plumbing fixtures, cases for dishes, range, refrigerator, etc. The operating suite consists of the surgeon's lavatory, fitted with lavatories, toilet, and shower bath; the etherizing room, the sterilizing room, nurses' lavatory, and

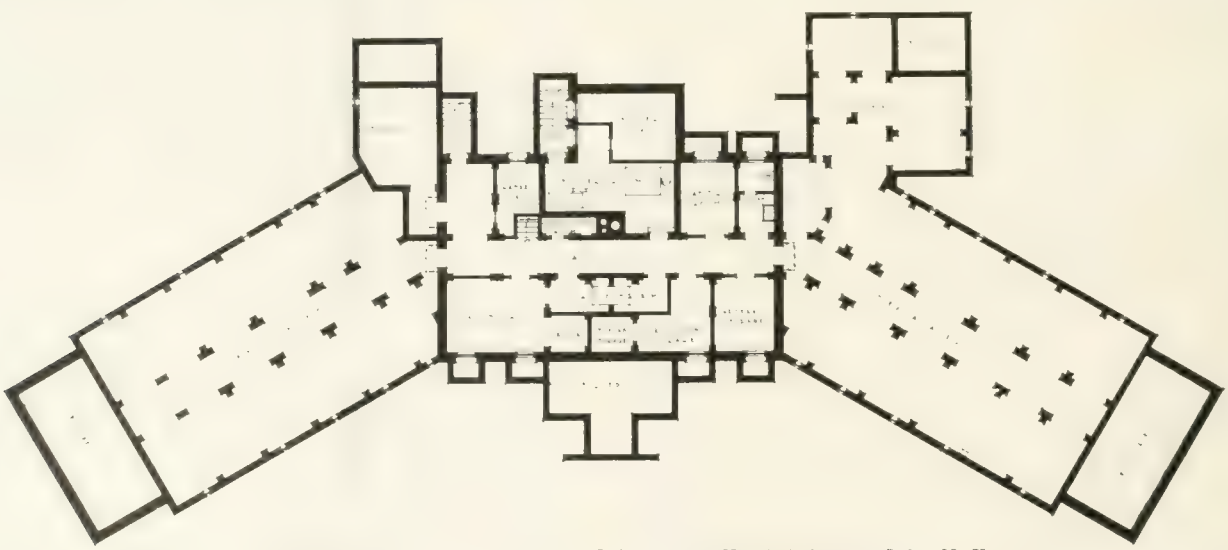


Fig. 2. Basement floor plan, Saranac Lake General Hospital, Saranac Lake, N. Y.

the operating room, with supply closet. The operating room is lighted by means of large fixed sash on the north side and a skylight in the ceiling, surrounded by a row of electric lights behind the glass of the ceiling light.

In the right wing of the building are arranged four single bed rooms and two three-bed wards, with wide central corridor extending through to the large porch across the end. Here are also found a general bath room, two general toilets, the nurses' utility room fitted with lavatory, laundry tray, sterilizing slop sink, and the necessary shelving and racks, and the diet kitchen equipped with sinks, gas range, and steam table, refrigerator, and ample cases for dishes. It is intended that the left wing shall be a duplicate of the right wing, thus providing as large a number of beds as can be properly cared for by the administration facilities furnished in the central portion of the building.

In the second story of the two-story part are provided accommodations for six nurses and for three maids, with a bath room for each group, and a large store room for storage of surplus linen. In case of necessity it is always possible to use these second-story rooms for convalescent patients, if the nurses can be provided for outside the main building. The basement extends only under the central portion of the building, the ground being left unexcavated under the patients' wing. In the basement are the boiler and fuel rooms, laundry, room for large sterilizer and disinfector, janitor's room with toilet, and large storage rooms.

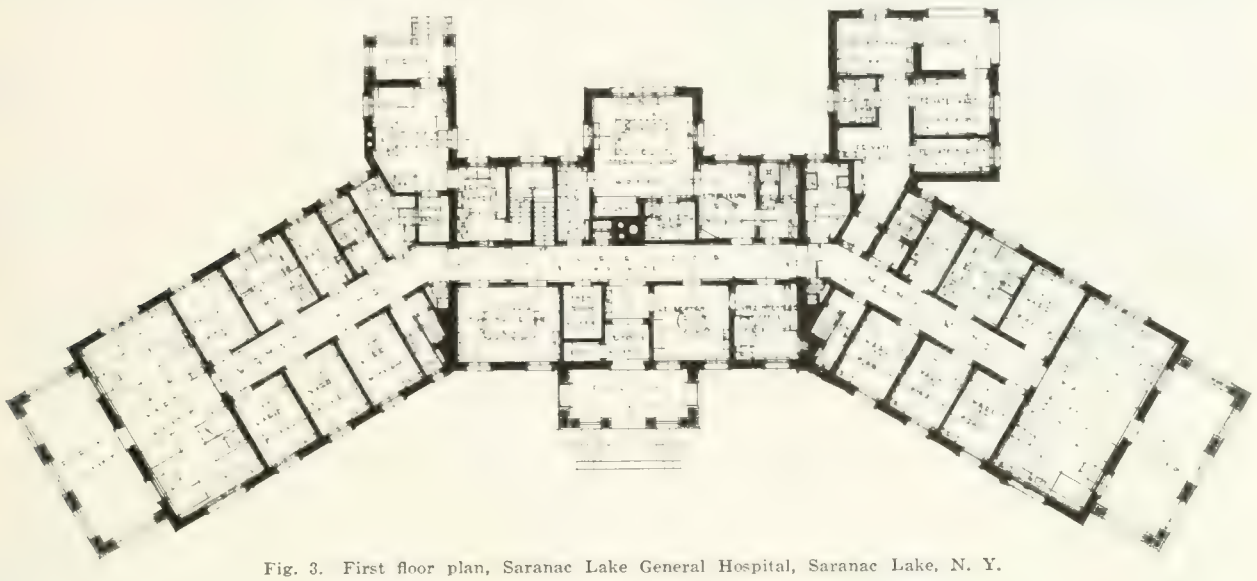


Fig. 3. First floor plan, Saranac Lake General Hospital, Saranac Lake, N. Y.

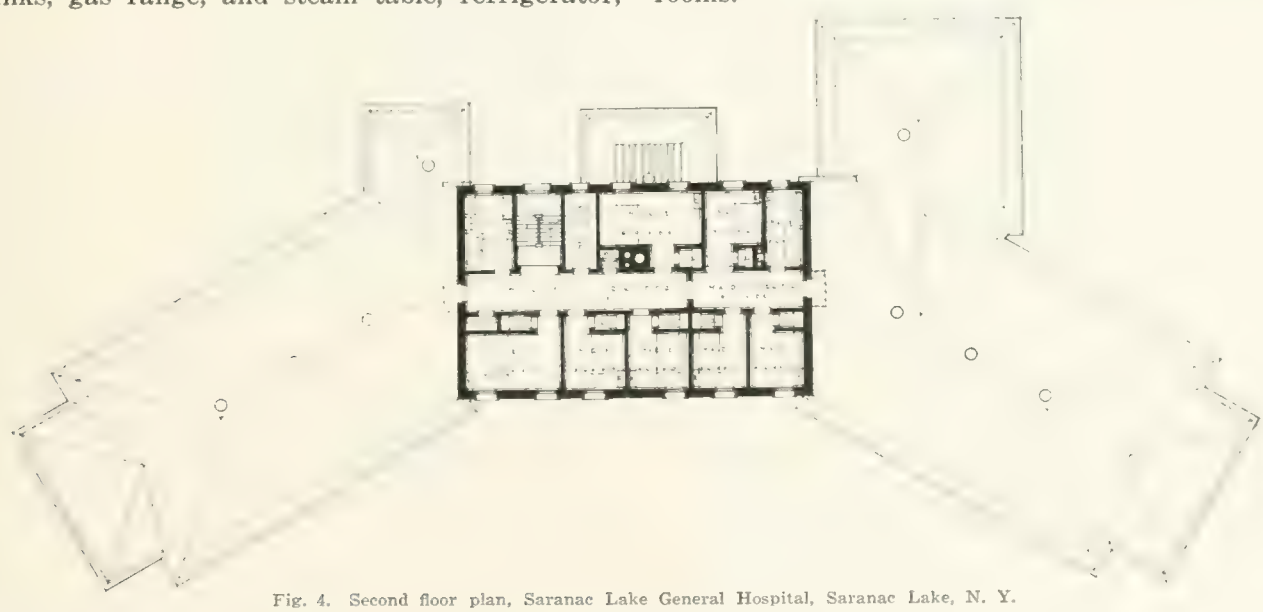


Fig. 4. Second floor plan, Saranac Lake General Hospital, Saranac Lake, N. Y.

The building is built with terra cotta block exterior walls veneered with rough brick of a soft red color, stone sills, porches and cornice work of wood, painted white, and slate roof. The interior construction is of frame, with wood floors, except in the operating suite, diet kitchens, and all baths,

toilet rooms and utility rooms, where there are floors and wainscoting of white tile. Low-pressure steam is used for heating, and there is a small high-pressure boiler furnishing steam for heating

Fig. 5. Operating room, Saranac Lake General Hospital, Saranac Lake, N. Y. Note skylight.

the domestic hot water and to the operating suite, diet kitchens, and utility rooms, for sterilizing and warming purposes.

The central portion and right wing of the building were erected in 1912 and cost, including the architect's fees, approximately $29,300, which is about 23.5 cents a cubic foot.

THE SANATORIUM BLANKET PROBLEM

Importance of Blankets—Best Size and Weight—Method of Sterilizing

BY H. M. SCHELLER, Superintendent Sunny View Sanatorium, Winnebago, Wis.

Blankets form a very important and indispensable part of the sanatorium bed outfit and perhaps require the greatest financial outlay. Therefore, the care of the supply of blankets in a sanatorium is a problem of great economic as well as sanitary importance.

The routine procedure in the care of tuberculous patients consists of keeping the patients in the open air a maximum amount of time, night and day, rain or shine the year round; for, as Ruskin says, "There is really no such thing as bad weather—only different kinds of good weather, for sunshine is delicious, rain is refreshing, wind braces up, and snow is exhilarating."

When the patient's bed is in a room, the windows are wide open; when on porches, the bed-coverings furnish most of the protection from the weather, except that afforded by the roof and possibly wind or rain shields.

If a patient is allowed to suffer from cold or exposure when taking the cure at a sanatorium, his health gains will be very slight. This physical discomfort may be avoided by an abundant supply of serviceable blankets, a foot-warmer, and various kinds of caps which protect the head and neck.

Single wool blankets about 66 inches wide by 78 inches long, weighing about 5 pounds, are very satisfactory. When blankets are so large that they require folding several times, beds are much less easily made and kept fit for inspection than where single blankets are used. This fact, as well as the frequent need of removing blankets when soiled by hemorrhage, sputum, and other excreta, makes it very undesirable to use blankets which on account of their size have one or more folds.

About five single wool blankets for the use of each patient is a number ample for all weather conditions, providing the patient has a good heavy horse blanket for a top covering to protect the bed from rain and snow. In our effort to keep patients comfortable in all kinds of weather, let us not lose sight of the fact that too heavy coverings prevent sleep and produce a tired feeling next morning. It is a simple matter to discard one or more on warmer days or nights by folding the unused blankets neatly and placing them in the space between the ends of the bed and the mattress.

In the smaller sanatorium where large steam sterilizers for bedding are not installed, we follow this method: after a patient is discharged, or at other times when rooms and blankets require cleaning, the room and contents are put in fumigation for about twelve hours; next it is aired for several hours, and the floors, walls, windows, woodwork, furniture, and beds washed with a disinfectant solution with soap and water. If on inspection the blankets are found stained, the spots are thoroughly washed with Ivory soap, water, and a 5-percent carbolic solution. Then the blankets are taken down to the fumigating room, where they are left to air and dry until they can be sent to the laundry. Blankets are never reused without being carefully laundered.

Nurses are instructed, when handling contaminated laundry or bedding, to protect themselves by wearing a face mask and a large surgical gown used only for that purpose. An easy way to mark blankets is by taking adhesive plaster about 4 inches long and ¾ inch wide. The back end of a safety pin is placed in the middle of this adhesive strip, which is folded over safety pin, making a tag 2 inches long. The number of the bed is printed on one side and patient's name on other side of this tag with indelible ink. Then the tag is pinned to the corner of the blanket.

Woolen blankets are used all the year round by patients. The discarded blankets are stored in large cedar chests.

Double-fold cotton blankets are used during the winter months as sheets by the patients, and these are sent to the laundry at intervals.

Perspective

Get out of the hospital once in a while, and look at the building and its contents and the people in it, without considering your own personality as a part of it. You will be surprised to see how quickly the little things will look like little things, the petty jealousies and annoyances will shrivel up, and the big things will stand out in sharp contrast. Try to get the vision of your hospital as a whole, the work it is trying to do, what it means to your community, and many of the problems that have worried you will become just part of the day's work, to be finished and laid aside when the day is done.

A wounded soldier in a crowded omnibus rose to give up his seat to a lady.

"No, thank you," she replied, "I should not take your seat if you have been wounded."

"Madame," he answered, "I have been wounded three times, and would be wounded a fourth if you didn't take it."

THE CHILDREN'S CLEARING BUREAU OF NEW YORK

New York City's Latest and Most Ambitious Effort for the Conservation of the Best in Childhood

By FRANK C. BROOKE, Secretary to the Second Deputy Commissioner of Public Charities, City of New York

THE Department of Public Charities of the City of New York annually accepts as proper public charges thousands of destitute, dependent, and neglected children. These children are committed to child-caring institutions under private management and control. A most careful investigation of each individual case by the Bureau of Social Investigation precedes each commitment, but each year the city of New York pays these institutions for the care of its children a sum in excess of three million dollars.

During the administrations previous to that of Mayor John Purroy Mitchel there was developed an exhaustive system of investigation designed to prevent the acceptance of children who are not public charges. On the other hand, however, until the present administration no methods were desired involving the larger problems of the future care of the dependent child; the child was simply passed along through the commitment process to some private charitable institution or society.

Fig. 1. The new Children's Clearing Bureau of the City of New York is housed in this building, formerly the Messiah Home.

The city of New York seems to have done absolutely nothing to ascertain the dependent child's mental or physical condition before sending him to an institution, and until recently made no effort to find out which institutions were best adapted or equipped to minister to the needs of the individual child. As a rule a vacancy in the private child-caring institutions was the principal factor in the selection of the institution for the particular child.

When Hon. John A. Kingsbury became the commissioner of public charities he selected for his second deputy commissioner in charge of children's work Hon. William J. Doherty, who, as head of the Catholic Home Bureau, had for fifteen years been familiar with the haphazard method of the selection of institutions and knew of the hardship it worked, not alone upon the dependent child, but upon the private charitable institutions themselves. Appeals from the heads of institutions for the transfer of children assigned to their care strongly impressed him with the injustice of this haphazard method of assignment of children. For instance:

William W., a cripple from infancy, was in a large institution unable to give him proper care, or to furnish him entertainment or schooling because of his crippled condition. He was transferred to an institution where modern methods of orthopedic treatment are provided, and the boy has been greatly benefited thereby.

Minnie S., a mental defective, for many years in an ordinary child-caring institution, had never received a mental examination. She was deprived of proper schooling and had become a drudge for the institution and a butt for the ridicule of the other children. She was a repulsive sight, and many visiting mothers told tales of the terror of their children at being obliged to associate daily with this uncouth object. Minnie was given a mental examination and transferred to a proper institution.

From the beginning of his term Deputy Commissioner Doherty cherished a plan to establish a clearing house for all newly admitted children, where they might receive all remedial measures which their condition demanded, and where each child might be studied before he was assigned to

an institution, so that there would be no more misfits remaining year after year in institutions without hope of improvement.

In 1916 he established a clinic in connection with the Children's Home Bureau, the boarding-out agency of the department, and all children referred to it by the Bureau of Social Investigations were given a thorough physical examination before they were sent to board in private families. Since October, 1916, about one thousand children have been so examined. Knowledge of the needs of the individual child made it possible to select the type of home best adapted to minister to those needs.

The results of the physical examinations showed many children needing immediate medical and surgical attention; indeed, for a large number of these children hospital care had to be provided. In many cases it was necessary to keep the children under observation for varying periods before it was possible to send them to the carefully selected boarding homes. A temporary shelter had to be provided for these children. The results accomplished in the clinic of the Children's Home Bureau demonstrated to Commissioner Kingsbury and to Deputy Commissioner Doherty the utility of having all dependents made physically fit as the first step in rendering them fit to take their places in life.

Fig. 2. As a first step toward adjusting each child to life, he is given a thorough medical examination and such treatment as is demanded by his physical condition.

Fortunately, the plant for such a work was easily found. The authorities of Messiah Home had decided to abandon the care of children and to sell their property. They had a splendidly built and equipped institution, which they agreed to lease to the city of New York for a nominal sum. This building is a modern fireproof structure erected about eight years ago at a cost of $600,000. It is finished artistically and is provided with every modern accessory for a child-caring institution.

The Children's Clearing Bureau is the city's latest and most ambitious effort for the conservation of the best in childhood. It is unique; it is said that there are no similar institutions in the world. To this clearing bureau will be sent each year two thousand children for observation and examination, each child receiving treatment for his physical needs. When he has been cleared of physical defects and his mental status established, he will be sent to an institution which the department knows is best equipped and adapted to minister to his needs.

When a child is admitted to the clearing bureau he is given a bath, clean clothing, and a medical examination, and then is told to go out and play—for which there are ample grounds and equipment.

Fig. 3. After receiving a bath, clean clothing, and a medical examination, the children are sent out to play.

Willie Strovinsky's letter (reproduced *verbatim et literatim*) to his father describes his impressions:

"Dear Father:

"I am having a good time over here. We salute the flag every morning. We have swings. We have many good things which we could play with. I have a coat and I have a new suit, we wear it every Sunday. We have a pair of skates we are going to skate on Saturday. I am going to school to. I feel very happy I say my prayer every night I now it well. I take a bath, and at night we say stories. we have ice cream every Sunday. We sing and we have a piano. We wash our teeth. I dress myself every morning we do our beds. I hope you are strong and health and wealth. I shall never forget about you and mothers sister, and your brother and Annie and John and the little baby. We play bace ball once a while. We have books to read I got a new pair of shoes. We get up at six oclock. We get good things to eat. at night go to sleep at 8 oclock.

"Your loving son

"WILLIE."

The second day the child enters school. After his adjustment to his surroundings is complete he goes to the clinics to have his defects corrected. In the mental clinic he is observed by a psychologist trained in the most advanced methods. Two

alienists complete the study of the child's mental status. In the clinic for speech defects the child is treated for his lack of proper articulation. The equipment of the dental clinic is the most complete to be obtained. An x-ray equipment and modern appliances for anesthesia make possible the very important work of oral surgery, and particularly effective root canal treatment.

A careful orthopedic examination is given each child, and corrective devices are supplied. In fact, the equipment in all clinics is complete and the personnel of each service is so well selected that a child who has passed through the clearing bureau is as near perfect physically as he may become within a reasonable length of time, and has been so carefully observed that in every case he will reach the institution best fitted to care for him.

Fig. 4. The equipment of the dental clinic is the most complete to be obtained.

The Department of Public Charities of the City of New York may now be said to be the leader in modern communal child-care work. The successful work which is now carried on in the Children's Clearing Bureau not only will serve to place the city of New York in the front rank of enlightened communities which are working constructively to advance the best interests of the dependent child, but will act as a stimulus to other cities throughout the country.

Moreover, the city of New York has purposely refrained from embarking on a onesided child-caring philosophy, New York City having set an example of utilizing every social agency and social method of child care that might advance the happiness of dependent childhood.

The Swedish Hospital, of Minneapolis, on January 4, celebrated the 20th anniversary of its founding. The original capacity of the hospital was 25 beds, but this was increased in 1914 to 160 beds. Last year 4500 patients were cared for. A training school is maintained and nearly 200 nurses have been graduated.

Standardization of Surgical Dressings as a War-Time Economy

In this time of great stress, when perhaps each piece of wasted gauze or cotton may mean that some suffering human being is deprived of just that much, we want to make another plea for doing away with all unnecessary special dressings. The supply cupboards in hundreds of operating rooms bear some of the following legends:

Dr. A's sponges.
Dr. B's 4½-inch gauze roll.
Dr. C's special dressings.
Dr. D's hernia bandage.

Oftentimes, after a rushing day and after nurses are through the cleaning and sterilizing and innumerable other things, someone discovers that there are none of Dr. C's special dressings for his operation tomorrow, so someone whose brains and hands are already tired past endurance must stay on to make some fanciful and unnecessary sponge or packing.

We know that all operative measures may be successfully carried out with the use of simple standardized dressings, and the time has come to say that we do not believe it is any more right to use labor or material in making unnecessary dressings than it is to waste flour, lard, or sugar.

One of our large city hospitals which has done much within the last few years to show good methods of economy uses, for instance, three large foot-pressure steel drums in each operating room, and from the contents of these three drums all operations in this room are supplied. No cotton is present or brought in for use except the small amount used on the small applicators. The first drum holds the ordinary folded 4-inch square sponges; the second, laparotomy towels or sponges, all of a uniform size, about 8 by 12 inches; and the third, what is known as 4 gauze, and this time-honored dressing may be used for almost anything. Folded as it is made, it makes an excellent 4 by 4 sponge; unfolded once and laid smooth side down, it is ideal in size and thickness to cover an abdominal incision or to make a perineal dressing; unfolded once again, it makes a good covering for a head case or wounds of the extremities, or it will conveniently wrap around a stump; and, if it is made carefully with turned-in ends, may be safely used on long forceps in the abdominal cavity.

There does not seem to be any actual necessary deviation from these simple dressings, except the 4-inch 5-yard roll, which may also serve many purposes—for abdominal packing in hemorrhagic or suppurative cases, for bandaging trephine and head wounds or wounds of the extremities, for hernia, and for breast amputations.

The narrow packings, the cotton sponges for eye work, and the small easily made puff sponge for tonsil work, must of course be especially made. In hospitals which are equipped for the washing and resterilization of used gauze it is found that the 4-gauze, which forms the bulk of dressings to be washed, the large size laparotomy towels, and the 4-inch 5-yard roll are large enough to come out of the laundry with comparatively little waste.

Dr. Leo J. Dretzka, superintendent of the City Receiving Hospital, Detroit, Mich., was called to Philadelphia in January to become a member of the brain surgery section of the United States Army medical corps. Dr. Dretzka has been in charge of the Detroit institution since it was established in 1915.

AN ECONOMICAL ISOLATION HOSPITAL

Isolation Hospital of Guardian Angel Orphanage, Peoria, Ill.—A Satisfactory Solution of the Isolation Problem Where Low Cost Is Imperative

By HAMILTON B. DOX, Architect, Peoria, Ill.

GUARDIAN Angel Orphanage stands on the edge of a broad plateau, about a mile beyond the western limits of the city of Peoria, Ill., overlooking the beautiful valley of the Kickapoo. It is for the use of and is supported by the diocese of Peoria, which embraces all northern central Illinois from Indiana to the Mississippi, and includes within its boundaries more than a hundred thousand Catholics. The orphanage is in the hands of Franciscan nuns, whose mother house is in Peoria, and is, of course, under the direct jurisdiction of the bishop of the diocese, Rt. Rev. E. M. Dunne, D. D.

A few years ago Bishop Dunne moved the institution from Metamora, its original location, to its present site, after erecting a new and larger

Fig. 1. Guardian Angel Orphanage.

building for its accommodation. So rapid has been its growth that additional buildings had to be secured, among them an isolation hospital to take care of the occasional outbreaks of diphtheria and scarlet fever which, as the capacity of the existing establishment began to be taxed, became more and more of a problem for the medical staff to handle. As a consequence of this increasing difficulty, in the summer of 1916, Bishop Dunne commissioned me to prepare plans for a small isolation hospital, upon the lines suggested by the physicians in charge, Drs. John F. Sloan and Arthur Sprenger. The result is to be seen in the subject of this article.

The building, at this writing nearing completion, will be ready for occupancy some time in February, 1917. The general contract was let for $9,322. The normal capacity will be from 35 to 40 children, exclusive of the observation rooms described below, and in an emergency, 50 could be easily accommodated.

The first essential was to insure complete isolation, not only from the main building, but also isolation of one infection from another. The two diseases most to be dreaded, diphtheria and scarlet fever, were, in combination, perilous to the last degree. Yet they must be taken care of under one and the same roof. To do this, it was decided to divide the building into distinct

Fig. 2. Main floor plan, Guardian Angel Orphanage.

halves, separated by a solid masonry wall, without openings of any kind. Each half must then be made complete in itself, with its own kitchen, bath, toilets and laundries. At first it was proposed to erect a one-story flat-roofed building, but eventually the decision was reached to provide an attic which could be utilized in the im-

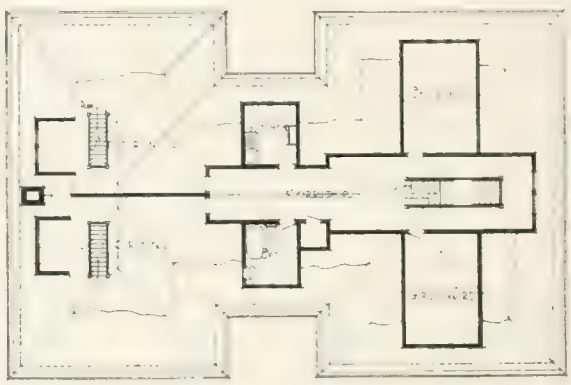


Fig. 3. Attic floor plan, Guardian Angel Orphanage.

probable but possible event of a third contagion, as for instance, measles, existing in the orphanage at the same time as diphtheria and scarlet fever. This third unit is arranged with a separate outside entrance of its own, shown in the center of the main facade, contains boys and girls' wards, bath and kitchen, and is lighted by broad dormers.

Still another provision was insisted upon by

the physicians, namely, rooms in which doubtful cases could be put under observation for a few days. Two of these rooms were therefore provided, each with a bath-room, sink, small electric heater and separate outside entrance.

The next point to be considered was the safe discharge of recovered patients and the avoidance of any possible danger of reinfection. By arranging a small disinfecting room, with an outer entrance, in connection with the bath, the following process was made practicable: The patient, immediately before being discharged, will be given a bath and his clothes at the same time be disinfected. The bath over, the patient will step at once into the disinfecting room, dress there, and pass directly out of the building.

The main floor plan, then, comprises two large units, separated by a division wall, besides the two observation rooms, each a separate small unit in itself. Each of the large units consists of a boys' ward and a girls' ward, each accommodating nine or ten beds. Between the wards are grouped the bath and disinfecting rooms, the boys' and girls' toilets and a small room for the physician, where it will be possible to perform slight operations, should occasion arise. From each ward a nurses' room opens.

At the rear, connecting with the wards, is a pantry, with large cupboards, which in turn opens into the kitchen. The pantry also contains the refrigerator, which is iced from the outside. The kitchen is equipped with sink, range, electric heater and cupboard.

From the kitchen a stairway runs up to a commodious storage space in the attic and down to the laundry in the basement. The laundry, one for each unit, has stationary trays and drying apparatus. Only that portion of the basement needed for the laundries and for the heating plant is excavated—another effort toward economy. Each laundry has an outside entrance and is as isolated as the units on the main floor.

In view of the necessity of maintaining an even temperature in any sort of hospital and considering the comparatively small size of the building, a hot-water heating system was decided upon and an Ideal sectional boiler, having a rated capacity of 3,700 square feet, was specified. Beside it a small hot-water supply boiler was installed to furnish hot water to all plumbing fixtures throughout the building.

A satisfactory floor plan having been sketched out, embodying the above-mentioned features, the architect turned his attention to the structural details of the building. Here the item of economy was paramount and governed the construction to a large extent. That being the case, ordinary construction alone was available. The outer walls are of medium burned hollow tile, with a facing of brick, costing $11 per thousand, laid in gray mortar. The brick are a dark red, with a slight but pleasing variation in hue. The interior division wall between the two halves of the building is of tile. All other partitions are frame. The question of flooring was next taken up. A non-absorbent, resilient, sanitary floor was imperative, and yet the question of cost was not to be ignored. After due consideration of samples, price-lists and previous installations, red "Korkstone" was finally selected. For the entire main floor a ½-inch-thick application of this material was required. As the attic unit was merely for emergencies, for economical reasons the "Korkstone" was dispensed with there and a ⅞-inch grain yellow pine floor substituted.

For the walls and ceilings, two coats of the best quality lead and oil paint were applied directly to the plaster, which had been given a hard, smooth finish. It is, in consequence, possible to wash walls, ceilings and floors with equal facility. The wood trim is yellow pine throughout, of the simplest and plainest profile, with a minimum of dust-catching moldings. The main roof is genuine certificate slate. The dormers are covered with 40-pound I. C. tin.

Another necessary feature is the septic tank, into which all sewage from the hospital flows, to be purified, before it mingles with the sewage from the main building. The plumbing is of excellent quality in all particulars.

On the whole, while it can lay no claim to architectural beauty, the building would seem to be a satisfactory solution of the problem presented where isolation is a necessity and cost must be pared down to the lowest point consistent with good, permanent building.

An orderly . . . very willing, but hopelessly incapable, makes the queerest blunders, and has a decided objection to being bossed by women! Part of his duty is to clean the operating room, and one day a surgeon asks for an appendix specimen which seems to have disappeared during the excitement of getting ready for the next operation.

"Did you do anything with that appendix when you were cleaning up, John?" asks the nurse in charge.

"No, ma'am, I've never touched an appendix all the time I've been here. I see dozens on the floor every day, and never touch them, ma'am, and I can get anyone in this town to speak for my honesty!"—Laura Hartwell, R. N., in American Journal of Nursing.

Humility is a virtue all preach, none practice; and yet everybody is content to hear.—John Selden.

OCCUPATIONS FOR OUT-PATIENTS AT THE MASSACHUSETTS GENERAL HOSPITAL

Coming Need of Remunerative Work for Invalided Soldiers—The Cement Shop of the Massachusetts General Hospital—A Cooking School for Men Worth Trying

By JOHN F. BRESNAHAN, M. D., Boston, Assistant Resident Physician, Superintendent of Out-Patient Department, Massachusetts General Hospital

THE present war has added fresh impetus to the movement for providing occupation for the incapacitated. Thousands of soldiers invalided home must work to support themselves. Great effort and much ingenuity are to be used in providing them with a livelihood. The subject of occupational therapy has long interested those in charge of chronic hospitals and institutions devoted to the care of insane. It has been of more or less interest to the administrators of general hospitals and to those interested in social service. The movement is in its infancy. It is a known fact that most men are happiest when occupied, and medical men of experience recognize a distinct relationship between suitable occupations and mental and physical health.

There are two stages in the care of the sick in general hospitals when occupational therapy has a distinctive value: (1) when a patient is confined to a ward and yet is able to busy himself without detriment; (2) when a patient discharged from the hospital is attending the out-patient department for convalescent treatment. For example, a man who is confined for nine weeks in a ward with a broken hip would be often much benefited if he could be given something to occupy his hands as well as his mind. An example of the second type of cases is one of a brakeman who loses an arm and is required to return to the out-patient department several times weekly for the dressing of a sluggish wound. This man may be, and often is, without work and yet he is the bread-earner of a family.

He is likely to suffer from the discouragement felt by all able-bodied men at the loss of an arm or a leg. This man, at first, at any rate, is apt to become downhearted because he is a cripple, but if he can be assisted through this period of depression by being given some form of employment suited to his physical condition, he is less likely to pity himself and is more likely to keep himself in good physical and mental trim.

For some four years we have been experimenting in the Massachusetts General Hospital with these two types of patients. Our efforts to provide ward patients with work have been confined to the orthopedic wards, where simple forms of basketry and rug-weaving have been tried. No great progress has been made because of the short stay of many patients and because the forms of employment along these lines are limited as to the sales of the products. In the case of the convalescent out-patients our efforts were more successful.

Following the lines laid down by Dr. Hall of Devereux Mansion, Marblehead, Mass., a pioneer in occupational therapy, we started a cement shop. This shop employed from four to ten men the year through, in charge of an instructor trained by Dr. Hall. Various articles were made of cement, reinforced with iron rods; garden benches, bird baths, sun dials, large bay tree jars. The flower jars were made in different styles and in different colors. Space in a down-town flower shop was leased and the articles placed on sale. Special sales were held at Christmas and Easter time. The articles were also on sale at the hospital. In addition to these means of disposal, a large mail-order business was built up by listing the names of known friends and benefactors of the hospital, and increasing the list as the cement ware proved its value.

In employing patients, some distinction was made between the handicapped and the incapacitated. Only the handicapped were given employment. The discrimination was necessary in order to limit the number of the employed to the resources of our plant. Thus, by this distinction, employment would be given to a man who had lost an arm or a leg or who had a badly contracted hand following sepsis; but a patient who was suffering from a heart disease or diabetes or epilepsy would not be accepted. When patients applied to the shop for work—and they were in most cases sent to apply by social service or allied agencies—they were made to understand that their work was temporary and that the time of employment was limited to a month. The men were paid at the rate of $1 a day and worked between the hours of 8:30 a. m. until 2 p. m., with an hour for luncheon. Each was made to understand that his employment was temporary because we wished him to hunt for a permanent job and that was why he stopped work at 2 p. m. The rest of the afternoon was supposed to be devoted to finding himself work which would be more remunerative.

The shop from the point of view of therapy was a distinct success. Many of the men employed came to us rather depressed in spirit and doubtful as to their ability to earn a living.

During the year 1915-16 thirty-six handicapped

men received employment for one month. No man was discharged, however, even at the expiration of one month, unless he had a new job in view. Among the varieties of occupations which the men undertook on leaving us are the following: shipping, street vending, running an elevator, packing, messenger and watchman's service, cement-mixing, carpentry, etc.

From a financial point of view the cement shop was not a brilliant success. Like any business, the results depend on the undivided efforts and the business acumen of the director. The first two years were spent in finding suitable designs by experiment, and in providing a method of curing the cement ware in water tanks to prevent cracking or breaking easily. In the last two years the profits have approached the expenditures, but there was still a deficit. During the Christmas season, it became evident from the sales that the demand for garden ware and flower pottery was rapidly decreasing, owing to the retrenchments made necessary by the war. By March, 1917, the volume of sales fell off so rapidly that it was deemed wise to close the shop rather than to run heavily into debt; therefore the stock was disposed of and the plant shut down. The directors of the cement shop derived considerable consolation, however, from the fact that every man employed by the hospital was placed in a self-supporting position elsewhere. This, of course, was made possible, in large measure, by the abnormal shortage of available laborers of all classes.

In time—two or three years, perhaps—the shop would likely have been a financial success, had the abnormal war conditions not intervened. To sum up, in the matter of dollars and cents our experimental results were negative; but it is by no means fair to judge in such terms the help given to the men or the fresh courage and impetus imparted to them.

The directors of the cement shop worked in close conjunction with the King's Chapel Bureau for the Handicapped. This bureau has a desk room, and representative on duty in the outpatient department. The bureau has done excellent work among the handicapped of Boston and vicinity. A large number of persons have been rescued from enforced poverty and placed on a self-supporting basis. One of their brilliant cases came to my notice some time ago. A man with a family of five children, who was a hard drinker and who had been assisted by the Associated Charities was referred to the King's Chapel Bureau for investigation, and, if possible, aid. His handicap consisted of the loss of his left leg above his knee, and one finger of the right hand. The man was studied from several angles, and the director of the bureau finally won his confidence and induced him to make a fresh start. The man's trade had been one allied to the working with wire. A temporary employment was obtained for him in a wirework shop, and he was taught to make wire lampshades. He was aided to set up a little bench in his home and was taught the rudiments and principles needed for a successful business, and the necessity for promptness, for careful work, and for pleasing his customers. In the last three years he has been very successful, and supports his family and educates his children. He has pride in himself and in his work, and has lost his craving for liquor.

There is an excellent opportunity for those interested in finding employment for handicapped workers in a development of a cooking school for men. The idea of the establishment of such a school occurred to me several months ago, and I investigated the field and the need for such a school. It seemed to me that there was a constant demand which could not be supplied for cooks in lumber camps, construction camps, fishing vessels, boarding houses, and night lunch wagons. The employment agencies inform us that men employed as cooks in such establishments are not trained, but start as scullions or dishwashers and manage to obtain in a more or less haphazard way a superficial knowledge concerning the cooking of food. Employment is steady and the wages are good, but in type, the men employed are unsteady and prone to the use of alcohol. There is no reason why a simple school could not be organized, which need consist only of a large room, a sink, two or three gas ranges, and a teaching staff. Teachers could be recruited by a call for volunteers with a knowledge of practical cookery. If a simple curriculum were evolved, and the classes were held each morning, the values of food and the principles of culinary cleanliness could be taught in a short time. A course of a month should be sufficient to train a man for the position as third cook, etc.; and if a man showed especial aptitude there is no reason why he should not be trained for a superior position. Men with wooden legs, artificial arms, deformities of a hand resulting from sepsis, or the many various handicaps, could manage very well to do simple kitchen work.

The directors of five employment bureaus, interviewed as to possibilities, say that there would be no difficulty in placing the graduates of such a school. The plan is at least worth trying.

A want of the habit of observing conditions and an inveterate habit of taking averages are each of them often equally misleading.—Florence Nightingale, "Notes on Nursing."

A SMALL HOSPITAL WITH UP-TO-DATE FEATURES

Bronson Hospital, Kalamazoo, Mich., a Creditable Representative of the Small-Hospital Class—Gray Operating Room Found Superior to White—Other Features of Special Interest.

By J. E. BROYLES, Secretary and Manager, Bronson Hospital, Kalamazoo, Mich.

THIS institution is perhaps rather representative of the small hospital as found in cities of from twenty-five to fifty thousand population throughout the country.

It is a fireproof building, having three stories over a high basement. The capacity is fifty beds, and in addition there are two rooms for office purposes, one for delivery room, one for nursery, and seven for operating room suite.

The dietitian has her department in the basement close to the general kitchen and the store

Fig. 1. The usual white operating room. Even in the picture there is a glare here not observed in the gray room.

room. An electric "dummy" carries trays to the floors, and an automatic passenger elevator serves the other elevator needs.

The hospital is controlled by a general manager and a superintendent. The training school, in which there are thirty-five nurses, is directed by the superintendent of nurses and two graduate assistants. Other subjects than practical nursing are taught by attending physicians, practically all of whom have been interns in large hospitals connected with different medical schools.

Though of only fifty-bed capacity, Bronson Hospital in 1917 cared for 1,391 patients, as against 1,193 in 1916 and 1,063 in 1915. Of these, 1,049 had surgical operations, as against 876 in 1916, and 778 in 1915. The surgical mortality for the year 1917 was 1.1 percent. The maternity department cared for 170 patients as compared with 130 in 1916 and 115 in 1915.

While in general this institution is perhaps quite similar to others of its type, mention will be made of a few things which do not savor of tradition.

GRAY OPERATING ROOM

This hospital has recently discarded white as the color in one of its two operating rooms. In its place a rather dark gray has been substituted. This color has been applied to the walls and all furniture, including even the benches for spectators. The customary sterile white sheets, gowns, towels, and headgear have all been replaced by the same articles made from ordinary gray Devonshire as purchased in dry-goods stores. It was found that the cloth could be purchased and made up by a local garment manufacturing company as cheaply as dyers had offered to dye the white supplies already on hand.

This room is located in the southeast corner of the hospital and is lighted by a 6 by 6 skylight and

Fig. 2. Operating room in gray, Bronson Hospital. All furniture and side walls are of this color, as are also all sterile goods used—sheets, towels, gowns, and caps.

six ordinary side windows. In white this made an intolerable glare of light. The side walls have been painted gray up to the ceiling. The lower halves of the windows have been painted with the same color, and shades have been provided for the still unpainted upper half of the sash and also for the skylight.

For ordinary laparatomy work a perfect light is obtained by closing all shades but that in the skylight, while the opening of just one shade on

a single side window acts almost like a spotlight in vaginal work. For nose and throat work all shades are drawn so that the head mirrors can be used with perfect satisfaction, yet the room is still sufficiently lighted for purposes of all assistants.

Fig. 3. Ordinary method of hanging charts on the wall. Unsightly, inconvenient, names usually badly lighted, all charts open to inspection by anyone in the corridor.

Only one room was painted gray at first as a trial, but it has been pronounced by surgeons so far superior to the white room that white will undoubtedly be dispensed with completely at the next decorating of the operating suite.

CHART RACK AND HIGH DESK FOR NURSES

The chart rack as used in this hospital has the following advantages over any we have seen in either hospitals or supply houses:

1. It is compact, being a rack that will accommodate one chart for each inch and a half of height, thus avoiding the unsightly method of hanging charts on walls.

2. Charts are quickly found by the doctor or nurse. Each chart has a number corresponding to the same one on both the bed and its shelf in the holder. A label holder on one end of this shelf has the name of the doctor in charge, and one on the opposite end holds the name of the patient. This also prevents the need of one doctor glancing over charts of other patients while in quest of his own.

3. This rack, being placed on an ordinary bookkeeper's desk, brings the whole front at once opposite one's eyes, preventing the need of either stooping or standing on tiptoe to read the patient's or doctor's name which is wanted.

4. The high desk is a great saver of time and labor on the part of the nurse. With the ordinary desk she must either go through the motions of withdrawing the chair from under the desk, sitting down, getting up, and replacing the chair—in addition to the actual writing done; or she must assume the tiresome stooping position while making her record. Usually the record is short and requires less time than that involved in sitting down and getting up again. A high stool is provided, however, for instances in which there is much recording to do.

5. The desk, being 60 inches long, affords abundant room for three or even four nurses or doctors to work or study as many charts all at once, each having a comfortable position while doing so.

Fig. 4. Chart rack made to stand on top of high desk, so all names of patients and doctors are easily seen, avoiding necessity or opportunity for charts to be observed by anyone not attending the case. Note how light is placed so as to light the front of chart rack and also the whole desk top, yet avoiding a glare in the corridor. The high desk saves much time and effort on part of nurse, and permits three or four persons to comfortably record or study charts at one time. Contrast appearance with that of the ordinary method of hanging charts on the wall in Fig. 3.

Another advantage is that the desk and stool are all of wood, thus avoiding the noise incident to closing drawers and moving as is observed in iron-made articles. The paint on iron can be kept no cleaner than can the paint on wood.

6. The drawers usually made in this type of desk afford abundant space for storing generous quantities of supplies, such as chart paper, scratch pads, pins, pens, ink bottles, blotters, dressings, adhesive strips, and instruments needed for dressings on the floor.

Only a part of the hospital has been equipped

with the chart rack and high desk, but it has proved so far superior to the other methods in convenience and saving of time that the remainder of the institution is soon to have the equipment installed.

AIR-PRESSURE SOAP SERVER

This consists of an ordinary bottle with a rubber cork containing two holes and the necessary tubing connecting it with a rubber bulb on the floor. One piece of tubing from the bulb reaches

Fig. 5. One bowl in operation suite, showing soap server operated by one foot on the bulb on floor. Note also ordinary faucets on water pipe. These regulate the flow and prevent splashing while water is running, and recoil in the pipes when foot cock is closed.

just inside the cork, while the other is an inverted L-shape with the end reaching the bottom of the soap bottle.

Pressure on the bulb from one's foot forces the air into the bottle and the soap out of the L tube without touching anything whatever with the hands. Moreover, the soap keeps running until the capacity of the bulb has been reached. If this pressure is continued it is usually all that is required. If all is not used, the suction incident to the expansion of the bulb draws the unused soap back into the bottle and thus avoids dripping and waste. This device has been used exclusively in the operating suite and delivery room for several years with entire satisfaction.

FINANCING A FIFTY-BED HOSPITAL

It may be added that, whereas this institution, at the time I took hold of it in August, 1914, was running behind at the rate of $8,500 a year; last

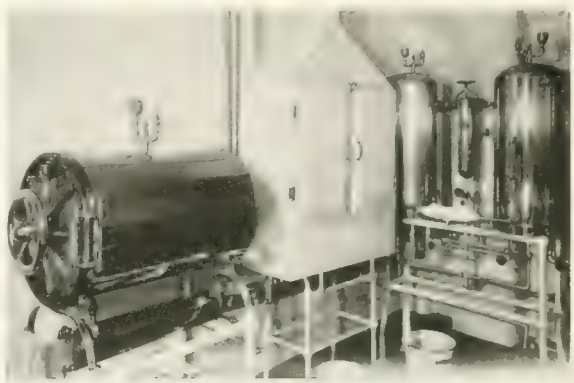


Fig. 6. Sterilizing room, Bronson Hospital. The hood covers the instrument sterilizer and solves completely the problem of steam getting into the room.

year, in spite of the prevailing high prices, we were able to "break even." This, we feel, is a good record for a fifty-bed institution with no endowment whatever.

Superintendents and Scientific Service

The great mass of hospital superintendents in this country feel that their jobs have to do only with the physical management of their institutions and that the care and cure of patients is up to the doctors. This is true only to a very limited extent; the successful treatment of patients is of vital concern to the superintendent of every hospital. If a hospital is not giving to its patients what they are entitled to in the way of scientific facilities for diagnosis and treatment, so that their doctors can give the best service to them, they are going to some other hospital that can give such service. The handwriting to this effect is on the wall in the form of a few overcrowded institutions and many that are unpopular and to which the best class of people in the community do not go when they are sick.

It is the business of the hospital superintendent to know that whatever laboratory of pathology he has is giving the best work of which it is capable to the medical men, for the benefit of their patients. This means that accurate and careful x-ray work shall be done and that competent methods for the special feeding of selected cases shall be established.

Doctors are going to continue to send free patients and the unimportant people of the community to the hospital in which they work, even under present conditions, but doctors must of necessity have an "eye to the main chance," and they are not going to run the risk of losing important patients by forcing them to go to hospitals unable to take good care of them. Any hospital can be filled up with free patients, and most hospitals can be filled up in the paying wards, but the high-class patients who are able and willing to pay for luxuries and hence who are distinct assets to the hospital, are becoming educated, their doctors are becoming educated, and these two classes are helping to educate each other, and the incompetent hospital is going to suffer.

STANDARDIZATION OF HOSPITALS—CLASSES VIII, IX, X, XI, XII, AND XIII

The Limitations and Possibilites of the Small Private General Hospital—The Private General Sanatorium One of the Most Difficult Problems in the Hospital Field—The Evolution of the Industrial Hospital—The Special Problems of Tuberculosis Hospitals

By JOHN A. HORNSBY, M. D., Chicago, in Collaboration with MISS MARY WHEELER, Principal of the Illinois Training School, Chicago; DR. SOLOMON STROUSE, Former Pathologist in and now Member of the Medical Staff, Michael Reese Hospital, Chicago; MISS RENA S. ECKMAN, Former Dietitian, Massachusetts General Hospital, now of Teachers College, Columbia University, New York; DR. J. T. CASE, Roentgenologist, Battle Creek, Mich.; DR. EDWARD S. BLAINE, Roentgenologist, Cook County Hospital, Chicago; MR. E. C. LARSON, Former Accountant, now Assistant Superintendent, Michael Reese Hospital, Chicago; MR. MICHAEL M. DAVIS, Jr., Director, Boston Dispensary, Boston, Mass.

CLASS VIII. SMALL PRIVATE GENERAL HOSPITALS

WE are now getting down to a new class of hospitals, more or less special in character. While Class VIII, consisting of small private general hospitals, cannot technically be called special, it is to all intents and purposes so, because as a rule these small private general hospitals are built around one physician or a small group of members of the medical profession. Until a very recent date they have been built around one single specialist who has been wise enough to choose a group of associates to make up a general staff, but the dominant man has fixed the status of the institution, and that status has been usually along the lines of his own specialty.

Quite recently medical men have seen the handwriting on the wall, and have been broadening out their viewpoints in the creation of even a private hospital enterprise, and have been associating with themselves specialists in other branches of medicine, who together have been doing teamwork.

Let us not confuse the private general hospital with the small public general hospital; the two are vastly different, the public hospital being partly general and the private hospital being essentially a special institution built up around a specialty and the specialist.

What are the special problems in this small private hospital? These hospitals are usually built and organized to afford some medical specialist better facilities for practicing his profession, and as a rule they are conceived by him along rather narrow lines. As the idea grows, the limitations of his institution recede—in step with the trend of the times—and before he is quite ready to open his institution he has generally conceived the notion that in order to give a real service, even to his own patients, it will be necessary for him to associate with himself one or more men in the other medical specialties. Hence it comes about that a purely private hospital, one financed privately, takes on the concept of a general institution.

The staff of such a hospital will obviously be made up of men selected by the originator of the scheme, and will include a chief surgeon, an internist, an obstetrician, who will also sometimes do pelvic surgery, an eye, ear, nose, and throat specialist, and occasionally a neurologist. The chief of staff is the originator of the scheme, and too often he will also be the administrator of the institution, having under him a socalled superintendent who will nearly always be a woman-of-all-work and who will be either incompetent or one of the most versatile women imaginable. The other men on the staff will usually have very little to say about the institution's management, and will be given such facilities as the chief desires them to have.

This organization of a private hospital is the worst imaginable. It gives no opportunity whatever to the members of the staff, excepting just what the chief decides on. And of course the limitations of the hospital will be great, because of the unsatisfactory service that the staff members will have.

A very much better way to organize such a hospital is to have all members of the staff financially interested in it, so that they will have a voice in the management. The narrowness, however, of the man who will organize a hospital, giving himself all authority and assuming all responsibility, will be expressed further in his refusal to give broad opportunities to his associates. The man who is big enough to see the mistake of such a policy will have been broad enough to make a far better organization. We see very many of these small private hospitals whose superintendent is at her wits' end, trying to give a decent service to several medical men while she is bound by the specific instructions of the chief to the contrary.

We can well see how one of these small private hospitals could be made a tremendous influence for good in a community. It can be conceived on broad lines, and in proportion as all the members of the staff are given equal opportunity and equal

facilities, just in that proportion will the institution grow and be successful, even from a financial standpoint. It will probably be necessary in any institution of this class that the medical men shall assume some administrative responsibility because their money is invested in the enterprise and because their close associations in the community will often make it desirable for them to conserve certain interests. But even then the administrative function can be exercised through a committee of the staff far better than by a single individual—a committee of three, for instance, the superintendent being the executive officer and reporting to the committee as a whole from time to time, and carrying out such policies as may be agreed on. Let us warn those at the head of such an institution that they are foredoomed to failure unless they give to their superintendent direct responsibility and authority in the handling of employees, the maintenance of discipline, and the creation of departments necessary for success. The authority of the trustees or owners must always be exercised through the superintendent, and it must always be understood by employees and by those doing business with the institution that the superintendent is the final authority.

Nursing.—The small private hospitals will generally run from ten to twenty-five beds, not large enough to justify the inclusion of a training school. In most of them private graduate nurses will have to be employed. Too many times when one of these small hospitals attempts to conduct a training school it is solely in order to obtain young women at nominal wages to act as menials and as nurses. This is an atrocious practice, and it is responsible for recent laws in many states fixing the bed capacity below which hospitals may not conduct training schools.

As a matter of fact, no private hospital should ever be permitted to have a training school, because they are conducted for money, and pupil nurses will invariably be used as domestics and as part of the money-making establishment. Sometimes country girls can be hoodwinked into coming into one of these private hospitals, and the girl who is so simple-minded and whose parents are so unsophisticated as to allow her to enter will hardly appreciate the injustice of her treatment there.

This is not saying that some of these private hospitals are not mighty good things in the community. Oftentimes it is the only chance for a community to have the advantages of a hospital of any sort, and almost any hospital is better than none. But there is every reason why the small private hospitals should be of real service in the community, and where they are not so it is due entirely to the narrow vision and the narrow-mindedness of those in charge of them. The nursing service in such a private hospital ought to pretty well pay for itself out of earnings for the special nursing of private room patients. There is never any excuse under any circumstances for a ward patient's having a private nurse; on the contrary, it is against every principle of good hospital management. A private nurse in a ward will disturb and interfere with every patient in the ward. The wards in such a small hospital as we have under consideration are so small that there will be at most only four patients, and one nurse can take care of four patients in one room almost as readily as she can take care of one.

The superintendent in a hospital of this class ought also to be the head of the nursing. She should also be the housekeeper and should do the buying. It will be a mistake to have the housekeeper keep the books. She can admit patients. The books ought to be kept by someone who can come in for an hour a day and who is in the business of bookkeeping in the town—a bank clerk, for instance. There can be a petty cash account that the superintendent can handle, with a day book, and admission and discharge cards can be filled in by the superintendent, and these can be turned over to the bookkeeper at the end of each day's business.

The Laboratory.—There is no good reason why this small private hospital should not have some good laboratory work. The volume of work will not be large, and usually there is at least one man in the community competent to do at least the simpler things. If there is money available, the owners had better employ a technician, and, in proportion as they employ a good one or a bad one, that department in the hospital will be successful or a failure. In a community in which such a hospital as this is likely to be created, there is almost always great need of pathological work, and, if the hospital has competent help in that department. there will nearly always be profitable work to be done. If the technician is incompetent, there will be very little business; even the men in the hospital will not care for the results of such work. If there is a good technician, men outside as well those within the institution will employ the laboratory, and within certain limits it does not make very much difference how much salary a technician is paid. The profits of the department will be commensurate with the value of the work, so that one of these small hospitals will often make more money, if that is the test of success, by paying a good salary to a good technician in the laboratory department. The equipment of such a laboratory is not so important. Five or six hundred dollars

will furnish everything that will be required, including a microscope.

The housekeeping functions of a hospital in this class are so obvious that it seems hardly necessary to go into them at this time. If the superintendent is competent, she will know how to supervise the cooking and the cleaning forces. The cook can waste or save an immense amount of material in proportion as she knows how to cut meats, use the left-over things, and how to conserve her food supplies. The house will be clean or untidy in proportion to the driving power of the superintendent.

CLASS IX. PRIVATE GENERAL SANATORIUMS

The patients in a private sanatorium are usually well-to-do people; generally they are ambulatory, very often afflicted with a nervous disorder, and always they are finicky, hard to please, and, having nothing to do, are very apt to let things get on their nerves—and altogether they form the most difficult of all classes of patients to take care of.

Recognizing these facts, we can easily assume that the successful management of a private sanatorium is one of the most difficult problems in the hospital field. Too often the administrator of such an institution loses sight of the real reason for its existence, and after a long and harassing career he is willing to assume that the chief function of his institution is to please his patients. We, who are not so close to the problem as he is, know that today, in view of our greater skill in diagnosis and treatment and of our knowledge of the principles of physical therapy and special feeding, we are able to do more than merely please the patients that find their way into the private sanatoriums of the country. We know now that, by using all facilities of which medicine is the master, with proper discipline and proper dietary after a decent diagnosis, we can cure many of these people and make very many more of them comfortable and relatively happy. But we know also that we cannot do the best of which we are capable and at the same time yield to all their whims and fancies; hence it is a trial of tact and diplomacy as well as of skill to persuade these patients to submit themselves gracefully to necessary therapeutic measures that may not be at all pleasant.

Of course the main thing in a sanatorium is to make a correct diagnosis, which very often has not been made at the patient's home; with the diagnosis in hand, then the further guidance of the patient is rather a simple matter, at least to one who has already acquired the tact and persuasive powers adequate to the task.

In order to make a proper diagnosis, there must be laboratories, and it is imperative that these be competent—that is, that they be in competent hands.

There are many hundreds of these sanatoriums all over the country whose proprietors and administrators find it impossible to understand why they are not crowded with patients. The air is pure, the scenery is fine, the water and food are excellent; there are beautiful groves and pleasant walks, fine trees, tennis courts, golf links, and all the essentials to almost an ideal life of pleasure. Why are not such sanatoriums popular? Largely for the reason that members of the medical profession today are demanding more for their neurasthenic and chronic patients than they used to demand. The medical man back home does not know about the beauties of the scenery and all the pleasures of the "resort," but he does know, and he makes it his business to know, that his patient is not getting a real service; that a scientific diagnosis has not been made, and that the patient is not under skillful scientific treatment. Some years of this sort of thing has made the average member of the medical profession quite skeptical about the value of the average sanatorium, and he wants to know a good deal about the place and about what is done there before he is willing to advise his patients to go.

Then it may be asked, What are the essentials to a successful sanatorium? The answer to this question is the discussion of this class of institutions with which we are now confronted.

In the first place, the patient who is sent to a sanatorium is not suffering from an acute disease; it is chronic, and most chronic diseases are more or less obscure. Consequently an adequate diagnosis is the first thing to be thought of.

A competent medical staff is the first essential—not one man who specializes in, let us say, nervous diseases, and not two men, but a group of medical men, each one a specialist in his branch and each one far better than those to whom the average patient had access back home. Then, there must be adequate laboratories that can aid the staff in making a diagnosis. A technician at the head of such a laboratory is of no service whatever. The director must be a thoroughly trained pathologist and bacteriologist, and he ought to be a physiological chemist as well. A man competent to direct the laboratories of such an institution is in demand at $5,000 or $6,000 salary. Many of these sanatorium proprietors and administrators will say, of course, that they cannot afford such salaries. Our reply is that they cannot afford incompetent people, and, if they have incompetent people, they are more than likely to fail in their en-

terprise, or at least drift along with a mediocre success.

Our conception is that the ideal sanatorium is yet to be developed in this country, and he who develops it will earn a reward, professional and financial, that will be a complete compensation for his financial outlay and the great task that he will have accomplished.

The European sanatorium has always been more than half a failure. It has nearly always been developed around a single specialist or around a spring of some sort. The European clinician has imbibed sufficient spirit of autocracy to have dominated all his patients, at least to the extent of compelling a proper dietary and a proper regime, or code of living. But the European sanatorium has also imposed on its patient an artificial mode of life, one that it is impossible for the patient to continue after his or her return home—with the natural result that, just as soon as the restrictions are removed, the old temptations come as to dissipation or work, and, no attempt having been made to strengthen the patient's resistance against these temptations, there is an early relapse.

The ideal American sanatorium must correct these shortcomings of the European institution. It must make a proper diagnosis and institute proper treatment under workable conditions; but it must also inculcate a habit of living salutary under the patient's condition, and not a habit that cannot be pursued evenly by the patient after he returns home. Some day such an institution will be opened in this country, and its immediate success will utterly destroy the present money-grabbing, oftentimes dishonest, and almost always incompetent sanatorium administration.

We doubt very much whether the ideal sanatorium is to be administered by a medical man, and, if so, he will be more than an administrator and less a clinician. It seems to us the two functions are almost antagonistic—and yet we can well see how the administrator of such an institution must be thoroughly in sympathy with professional ideals and the demands of modern medicine; and he will be not only willing, but able, to meet these demands in the various departments of the institution of which he is the administrator.

In marking such a sanatorium under the schedule of our standardization, consideration ought to be given to the diversity and the competency of the medical men who make up its staff, to the number and training of the resident medical officers or interns who are supposed to carry out orders, and to the adequacy of the nursing. The physical parts of the hospital are not unlike those of any other institution and can be marked accordingly.

It is obvious that there can be no training school in connection with a sanatorium, or, if there is a training school, that the training must be highly specialized, and there certainly should be affiliation with an acute disease general hospital.

CLASS X. INDUSTRIAL HOSPITALS

The industrial hospital in this country is undergoing more evolution than any other institution. Legislation, national and state, including employer's liability, compensation during illness, health insurance, old age and service pensions, and the like, are all making for quick kaleidoscopic changes in the form and limits of the modern industrial hospital. It is a grave question whether the industrial hospital of the future is to be conducted by the industrial corporation or whether that corporation is to submit the care of its sick to competent general hospitals under other management. We are very much disposed to think the latter will be the outcome, for two reasons. In the first place, a secondary function or a function of secondary importance is rarely given primary consideration, and, while the care of its sick may be viewed as of so great a magnitude by a corporation as to justify the employment of competent hospital heads and medical men, yet the responsibility and the authority would always lie with the business heads of the corporation, whose first impulse is to look after the finances and the profits. That is not the best sort of idealism in a hospital, and, since the public is being rapidly educated in this country, it is not going to take the average employee very long to find out that his health, in the estimation of his employer, has a dollar and cents value, and that the pros and cons are likely to be weighed in his care.

In the second place, there are such intimate financial relations between the employee and the corporation that there is a disposition already among legislative bodies and the labor leaders to take the sick or hurt employee out of the control of the corporation in order that undue influence may not be brought to bear to enforce a settlement of his claims for injury or occupational illness. The industrial hospital at the present time is, however, a very efficient and businesslike institution, and we are wondering whether it is not, as a class, the best and most efficient hospital in this country. It is certainly business-like, well equipped, well financed, and usually well manned.

The cases treated in the industrial hospital are oftener than not surgical in character, and, except in the out-patient or dispensary department, almost always acute. Hence diagnosis is not difficult and treatment is usually obvious.

Where the welfare department of an industrial

corporation, which usually includes the hospital, undertakes to look after the health of the employees in their own homes, the service is largely a nursing one, partly higienic and partly sanitary, and no intricate problems are involved.

It is obvious that a good doctor who is well informed in the principles of medicine, who is a good clinician, and who can do modern surgery aseptically, and who, withal, can have a sympathetic interest in the troubles of the employees of the corporation, will be the best possible head for such an enterprise. The unusual case requiring the services of a specialist can better be referred to someone in private practice, and will it be not only cheaper in a financial way, but the employees will likely have more expert service than he would get from a company doctor because of the very limited practice that such a doctor would probably have.

An all-time resident physician, and, if the service is large enough, one or more interns, will be extremely desirable, because an employee, when sick or hurt, needs immediate service, and unless he gets it will feel and will have a right to feel that he is being neglected by those who, he has a right to expect, are charging themselves with responsibility for his welfare.

The nursing in an industrial hospital ought to be in the hands of trained women. There are too many ethical problems and too great a demand for tact for this service to be intrusted to untrained or partly trained pupil nurses, and this class of hospitals will find themselves in better accord with their employees and patients if the nurses are women who have already been trained and have had experience in the handling of the public.

The laboratory of the industrial hospital need not be a matter of very great importance. The director should certainly be a good bacteriologist because so many of the illnesses and injuries of industrial employees are due to bacterial infection.

There should be a good x-ray department.

CLASSES XI, XII, AND XIII. TUBERCULOSIS HOSPITALS

We have three classes of tuberculosis hospitals —large public institutions, small sanatoriums of fifty beds and under, and the private tuberculosis sanatorium—Classes XI, XII, and XIII. These may easily be considered at one time.

The fundamental principles underlying their administration are all the same. The general administration of these sanatoriums is not different from that of any other hospital. The laboratories are needed for purposes of diagnosis and to keep in constant touch with the progress of patients. The nursing is always special and should be done by graduate nurses, and the problems of the physical administration are precisely those of other institutions. So that we need not discuss any of these things at this time. There are some things, however, that ought to be considered as appertaining to tuberculosis institutions, and we shall address ourselves to these special problems.

Some years ago it seemed to be accepted as the only proper course that as soon as a patient acquired tuberculosis he should be sent to the mountains; later on, when it was found that patients sent to Denver and the mountainous country were promptly dying, there came a new trend, and patients were sent to a warm and dry climate—California, New Mexico, Arizona, and southern Texas. The late Dr. Nicholas Senn made the prediction, after he had been to Labrador, that the future tuberculosis mecca would be somewhere in the arctics. Dr. Hornsby, who served in Alaska for some years, observed that tuberculous patients almost invariably recovered even in an arctic winter. The whys and wherefores of these various experiences and views need not be debated just now, but they go to show that we do not know all there is to learn of the effect of climate and environment on tuberculosis. Within the last two or three years a new problem has developed—namely, whether institutional care of the tuberculous offers any advantages over proper home care. There are advocates of both these views, and the problem still remains to be solved.

But just now we are discussing institutions for the care of the tuberculous. It goes without saying that as soon as a tuberculous patient enters a sanatorium an intensive study should be made of the case, clinical and bacteriological. In order to make this study, there must be good clinicians, experts in tuberculosis, and there must be a good laboratory in which part of the study can be made. After the diagnosis is definitely made and the stage of the disease is well established, treatment is mapped out and is, as a rule, pretty rigidly adhered to in most carefully conducted institutions.

It is easy for the discipline of the institution to keep the patient in bed when there is an elevation of temperature, and it is comparatively easy to feed such a patient because he does not eat much and will not be expected to eat very much, and milk will be the chief article of diet. The out-of-bed patient, however, is a more difficult problem and becomes an administrative problem; the better and stronger he gets, the greater will be his rebellion against discipline, and especially against the monotony of the institution food. Wise old horsemen say that if you throw dirt in a balky horse's mouth, he will start because he will be so intent on getting the dirt out of his mouth he will

forget that he is balking. That principle might be applied on a human being as well as the horse. At any rate, it is certain that if the querulous, fault-finding, trouble-making tuberculosis sanatorium patient is given something else to think about, he will have less time and less disposition to find fault with his food and with his environment. That is one reason why we think that more attention ought to be paid to diversion and recreation for tuberculous patients. Another reason is that we have found in our own experience that patients who can be made to forget themselves will be better off, mentally, morally, and physically, and hence will be aided in their cure.

Then, the doctors agree that a certain amount of judiciously applied exercise for tuberculous patients will aid the system in its office of metabolism and will help to clean up the waste, the products of disease, from the tissues and carry it along the blood stream to an exit somewhere.

So there are three things to consider besides diagnosis, treatment, and food—namely, recreation, diversion, and occupation. These three things are highly important, and the competency of a tuberculosis sanatorium can almost be measured by the solution of these problems alone. Of course the question of employment or occupation and its amount and character is wholly within the realm of the clinician, but the putting into execution of the physician's order is essentially an administrative problem and should be so regarded.

The patients will always be amenable to the principles of recreation and diversion. They like moving pictures, and story books, and the victrola, and like to be entertained by anyone who can sing or play, or who can talk interestingly. But these patients do not like to take exercise. They are almost always tired, and all sorts of schemes must be employed to cajole them into taking erercise, even exercise which is not in the form of work.

An excellent plan along this line is to have somebody in the institution, preferably a woman, who will inform herself or who will have been trained as an entertainer. Such an employee could take selected groups out for walks and talk to them along the way; for instance, if the walk is through the woods, the flora of the neighborhood could be the subject for discussion, and the entertainer would have posted herself about the plants and flowers and trees, their general characteristics, their species and their relations one to another. Another talk could be on the birds of the neighborhood. A most interesting hour can be spent, even if there are only half a dozen varieties of birds encountered. Another talk might be on the animals indigenous to the neighborhood—rabbits, squirrels, and perhaps larger game like beaver or deer—and there is so much that can be said of a most interesting sort on any of these topics. Out in the country the clouds can be made a most interesting topic of discussion, and it will not require a great amount of investigation and study on the part of the entertainer to be thoroughly posted so that she can give the patients a most interesting hour and make them forget at least for that time their troubles.

Gradually patients can be coaxed to participate in these little outings, and some of them can become fine entertainers themselves. Then there can be little theatrical performances, and the patients with incipient cases can be invited to participate, greatly to their benefit.

But we still have the problem of work. Most tuberculosis patients, especially in the charity institutions, peremptorily refuse to do any part of the routine work, and it is the complaint all over the country that these people cannot be made to work. Some of us have not had this experience probably because we have made the work a means rather than an end. In other words, we have found that if a patient has a certain amount of graded exercises prescribed by the doctor, prescribed because it is necessary as a part of his cure, there will hardly ever be any objection to it, and the administrator can more easily enforce a doctor's order for a certain specified amount and kind of exercise than he could enforce the order for a specified amount of scrubbing or cleaning to be done.

Usually there is no medical staff problem in a tuberculosis sanatorium; there should be enough doctors, specialists in the treatment of that disease, to watch the patients carefully and to examine them at regular intervals, even enough to be sure that the very best is being done for them that can be done. The nursing problem is not difficult. The nursing should be done by graduate nurses who are trained in the care of tuberculous patients; they need to have had special training in order to enforce the discipline of the institution, and especially to enforce the orders of the doctors, to see that patients stay in bed when they should, to see that they eat a sufficient amount of food, and to see that they take enough and not too much exercise, and, above all else, to see that they are not permitted to mope and brood over their troubles.

The physical and housekeeping problems differ in no wise from those in other institutions. A clean sanatorium is also a clean hospital. Good food, well bought, properly stored, advantageously prepared and invitingly served, is necessary in any kind of hospital. It is also quite as necessary to see that there is proper ventilation, proper heating, good plumbing and sewerage.

KISTLER MEMORIAL HOME FOR NURSES OF LOCK HAVEN HOSPITAL*

Comforts and Refinements of a Real Home Furnished Lock Haven Nurses in Memory of the Late Wilson Kistler—Construction, Equipment, and Furnishings Well Designed for Purpose

By C. HAPPERSETT, R. N., Superintendent Lock Haven Hospital, and LOUIS H. RUSH, of Rush & Harris, Architects, Philadelphia

THE city of Lock Haven takes great pride, and with reason, in the home for the nurses of Lock Haven Hospital erected as a memorial to a public-spirited citizen, Wilson Kistler, by his family. The excellent judgment displayed in the construction and equipment and the good taste employed in the furnishing make this not merely a modern, well-appointed building, but a most attractive and homelike home.

The building stands on the slope of the hillside overlooking the picturesque West Branch of the Susquehanna, facing the north side of the Lock Haven Hospital. It is three stories high, with a basement; the dimensions are 80 feet front by 40 feet deep. At each end are broad open verandas, 12 by 40 feet. The material is brick laid in English bond, with an "unfading green" slate roof. White marble keystones above the windows and white plaster panels below emphasize the rich, soft tone of the brick. The design is pure colonial.

Fig. 1. The Kistler Memorial Home for Nurses of the Lock Haven Hospital, Lock Haven, Pa.

The basement is thoroughly waterproofed to prevent dampness. It contains a large trunk room, a boiler room, and seven light, cheerful bedrooms for the hospital maids, also toilet. As it was desired to make the living quarters of the domestic staff entirely distinct from those of the nurses, a separate outside entrance is provided.

The ground floor (Fig. 5) contains a large living room or lounge, a writing room, a kitchenette, a suite for the superintendent, and two bed rooms for head nurses. The large living room (43 by 28 feet), where the nurses can enjoy the victrola, hold dances and have informal little parties, is one of the very best assets of the home. The large fireplace (Fig. 2), where the nurses can pop corn, toast marshmallows, etc., is also a source of much pleasure.

The homelike appeal of this room is enhanced by its artistic decorations and furnishing in tones of ecru and delft blue. The two-toned paper, the sun-fast silk curtains, and the window shades are ecru, while the woodwork, the large, plain rug, and the denim upholstering of the mahogany chairs are of delft blue. The wicker easy chairs are enameled in ivory, and upholstered in figured chintz harmonizing with the colors of the room.

Fig. 2. The living room or lounge in the Kistler Memorial Home, showing the open fireplace where the nurses pop corn and toast marshmallows on winter evenings

Fig. 3. The writing room in the Kistler Memorial Home.

Opening from the living room is the writing room (Fig. 3), which occupies the northwest corner of the building, and measures 15 by 20 feet. In this room the walls are hung with a Japanese

*This paper is the second of a series of articles on the subject of nurses' homes, the first being a paper on "Nurses' Homes and Some of Their Requirements," by Olof Z. Cervin, published in January.

grass cloth effect; the rug is ecru, and the woodwork putty-colored. The furniture is dark-toned oak, upholstered with gay chintz.

As the regular dining rooms of the nurses and domestic staff are in the hospital building, the nurses' home contains no provision for cooking except a kitchenette, where refreshments may be prepared for entertainments.

In the southeast corner of the building is the superintendent's suite, consisting of bed room, sitting room, and bath. The furniture in this suite is oak and the decorations correspond with those in the main room. Across a small hall from the superintendent's suite are two rooms with a connecting bath for the head nurses. One of these rooms is furnished in French gray and pink, the walls and the wooden furniture being finished in the French gray. In the other room the furniture is mahogany, the colors of the rug, etc., being green.

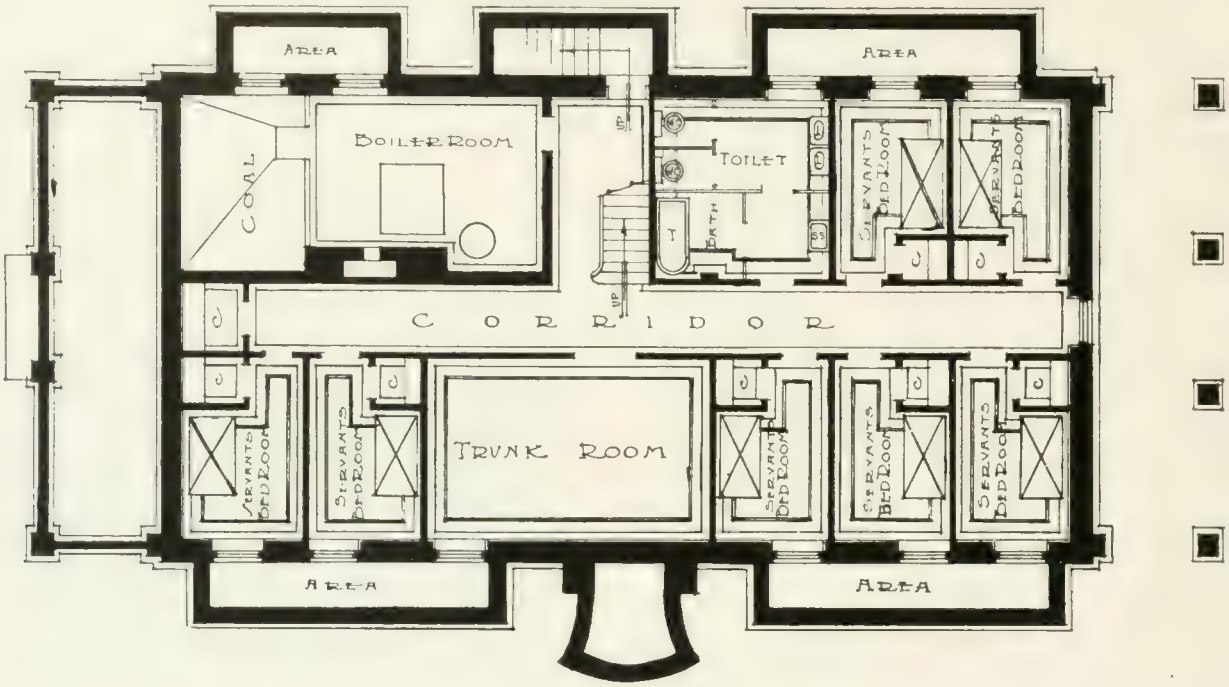


Fig. 4. Basement of the Kistler Memorial Home, showing the quarters provided for the domestic staff of the hospital.

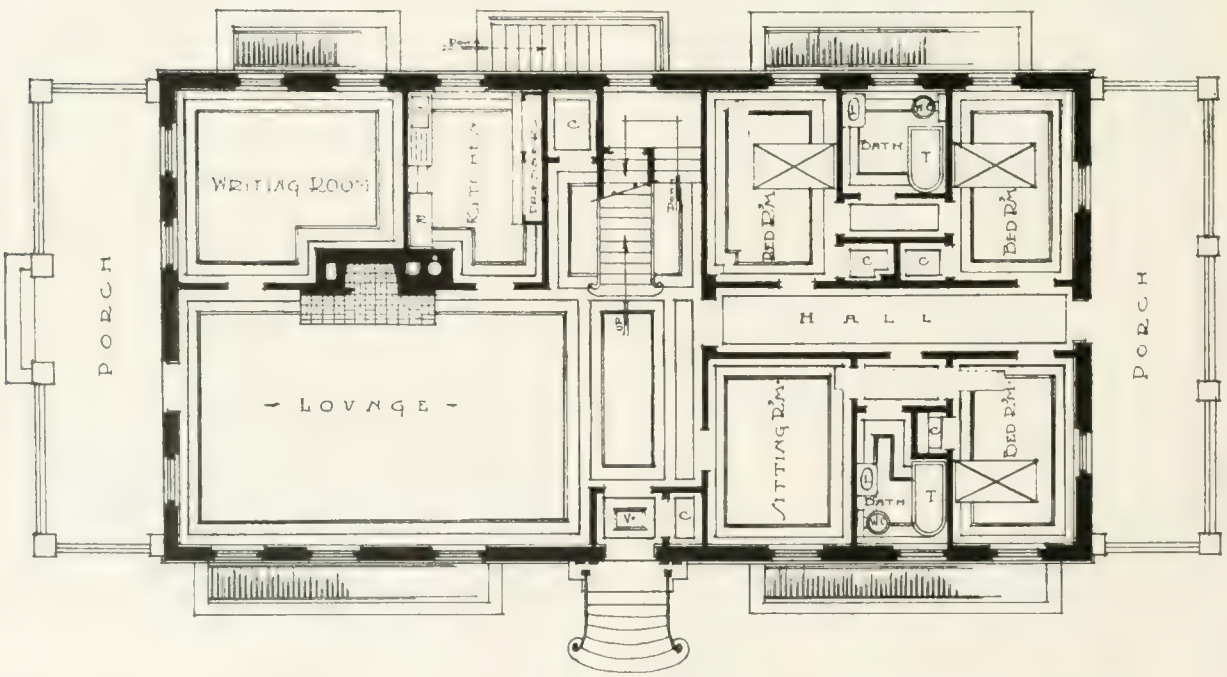


Fig. 5. Ground floor of the Kistler Memorial Home. Note the ample living room or lounge and the wide verandas.

The upper floors, approached by a colonial stairway with a Palladian window at the landing, contain ample accommodations for twenty-four nurses. The second floor contains, besides a linen room, toilets, baths, and a housemaid's closet, eleven bed rooms, each for occupancy by one nurse and each measuring about 9 by 15 feet. Four of these rooms, in the north end of the building, are cut off by a separate corridor from the other rooms, and carefully insulated from all noises. These are for the use of the night nurses.

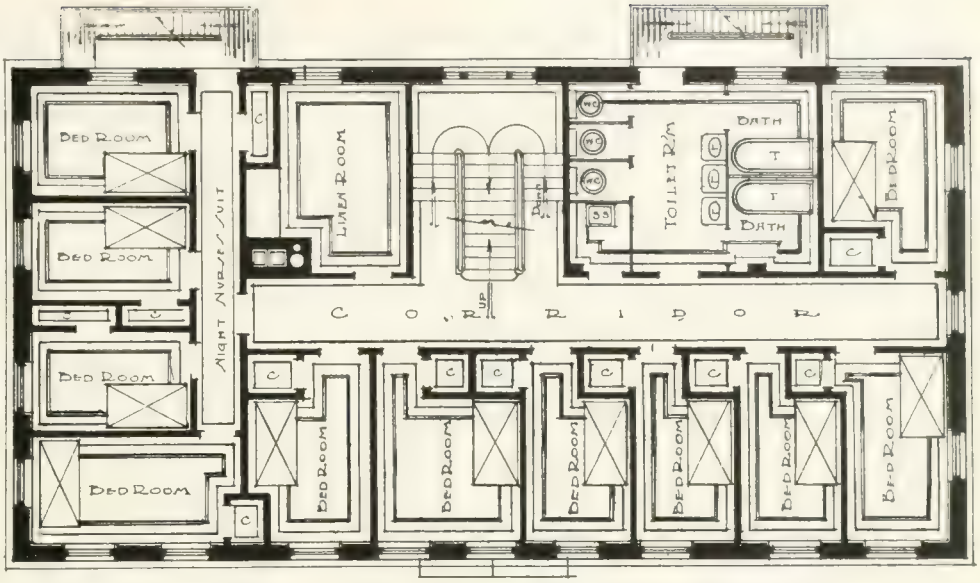


Fig. 6. The second floor of the Kistler Memorial Home.

The bed rooms have wooden furniture in a French gray enamel finish. Half are furnished in pink and half in pale green.

The third floor is intended for pupil nurses. It contains, besides toilets, baths and a housemaid's closet, one bed room for the occupancy of one nurse, one for two nurses, one dormitory for eight nurses, and one dormitory for four nurses. Each nurse in the dormitories, as well as in the bed rooms, is provided with her own clothes closet. The decorations and furnishings are the same as those on the second floor.

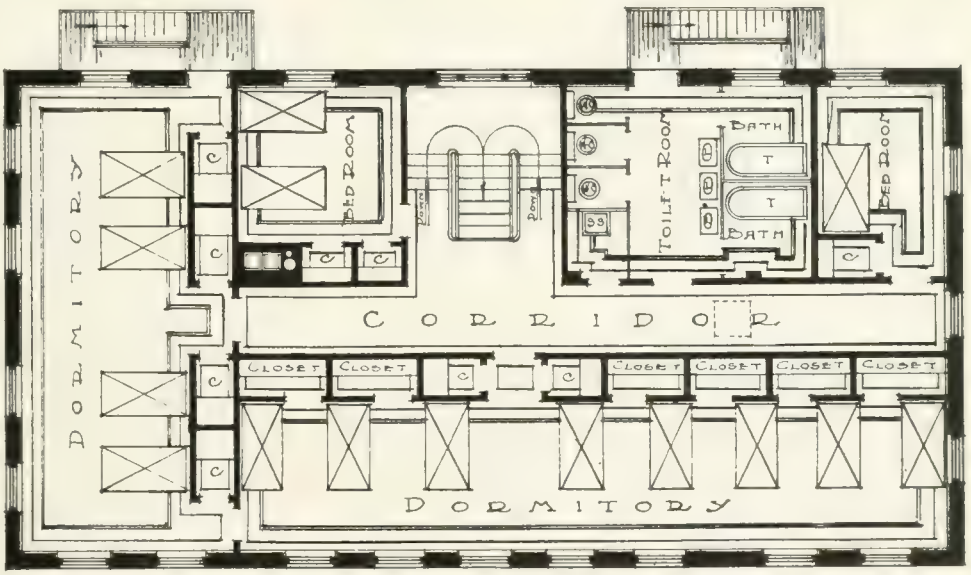


Fig. 7. Dormitory floor (third) of the Kistler Memorial Home.

The building was erected by Rush & Harris, of Philadelphia. It is heated by vapor vacuum heat with automatic regulator. The entire cost of the building was $30,000; the furnishings cost $4,000. The expense of operating it is very low, for one maid is able to keep it in spotless condition.

Courage in the Wards

In a war hospital a poor little specimen of humanity lay wounded nearly to death, says *The Hospital*, London. No home, no father, or mother could he call his own, and, living mainly by his wits, he had supported himself entirely from the age of twelve. He was pale and shriveled, with the expression of a sick monkey, the lasting token of years of half-starvation. Yet in this frail mockery of a human frame there lived a courage that would grace a king. Joining the army before attaining military age, he was but eighteen when a shell shattered both his legs, rendering necessary a flush amputation through each thigh. A day or two later, while he still was near to death, the ward sister, to cheer him up, said, "You know there's nothing the matter with you; you're only wounded." "Well," was his reply," if there's nothing the matter with me, sister, it's time I got out of bed and looked for the other half."

The Y. W. C. A. plans to use part of its funds raised in the last campaign for the comfort of nurses in service overseas. Nurses' huts are being constructed in places where those on hospital service have no heated comfortable quarters to use when off duty, and in Paris a house is being planned where nurses on leave may receive comfortable accommodations at moderate rates. Many nurses' associations on this side have contributed liberally to the fund for this purpose.

A new hospital for contagious diseases has recently been completed by the city of Mitchell, S. D. The structure is of brick and cost $15,000.

CONTROL OF EXERCISE IN PULMONARY TUBERCULOSIS

Absolute Rest May Easily Be Overdone, But Exercise Should Not Be Attempted Except Under Medical Supervision—Valmora Sanatorium Has Instituted an Automobile School

By H. L. STARING, M. D., Resident Physician, Valmora Sanatorium, Valmora, N. Mex.

A GLANCE at the history of many of our methods of treatment at the present day will convince us that the most valuable are those which have been used, discarded, and finally, with a few modifications and more caution, have regained a place among our useful therapeutic agencies. Exercise in pulmonary tuberculosis is no exception to the rule. Not many years ago the diagnosis of pulmonary tuberculosis was accompanied by a prescription for a long walk before breakfast, exercise in the fresh air, forced feeding, etc., which extreme caused the pendulum to swing and we have not, as yet, recovered from the absolute rest period which resulted.

We fear, however, that some of us have, in our scientific enthusiasm, forgotten the important fact that in the majority of instances our patients come to us expecting not only a cure or an arrest of the disease, but also a preparation for future activities.

Absolute rest, so essential in those cases in which the temperature is above 100 F., can, however, be overdone. We have seen patients coming to us from other institutions, after months of absolute rest, who could not walk across the lawn without experiencing marked dyspnea. These patients have had normal temperature and pulse for several weeks, yet they have been so "mollycoddled" that it is only after much persuasion that we can induce them to try a little exercise daily. Months must elapse before these patients can be given work that will remove them from the class of dependents.

Exercise, however, like vaccines and heliotherapy, is a double-edged sword and should not be attempted except under medical control. We are in a position to give the patients at Valmora individual attention, suggesting the amount and character of exercise for each, beginning with absolute rest and gradually increasing the exercise to the usual eight-hour day. In larger institutions it would be necessary to have fixed occupations and assign the patients in groups, increasing and decreasing the exercise, as we would in vaccine or heliotherapy, using the temperature and pulse record as a guide. This would never, however, replace the daily supervision by the medical director.

Again, we must not forget our patient's mental status. Usually he arrives at the sanatorium, alone, after a period of illness at home where he has had the care and companionship of relatives which companionship we cannot hope to supply. It is our duty, however, to supply, as soon as possible, some substitute, in the form of congenial occupation. When possible, this should coincide with the patient's former occupation. But when, as very often happens, this is not practicable, our next object would be to supply an occupation that will equip the patient for residence in a more suitable climate, should he desire to do so.

Such is the object of the automobile repair school in connection with Valmora, in which school the patients will be taught driving and repairing of cars under a competent instructor.

A graduated scale of exercise is hardly practical, except as an aid to the medical director in allotting the work or rest for each individual. Under no circumstances should a patient be permitted to increase his work without the consent of the medical director.

Such a plan as I have attempted to outline, I think, would eliminate many of the digestive disturbances so frequent in patients who do nothing but rest. It could be used with vaccines, tuberculin, or heliotherapy in cases that show a tendency to remain stationary. On the day of vaccine, and for forty-eight hours thereafter, the patient should not attempt to take more than one-half of his usual exercise. The dose of vaccine or tuberculin must be so regulated as to produce the minimal amount of reaction, and this reaction, local, focal, and general, studied and recorded carefully after each administration.

In conclusion, I wish to emphasize again the danger of indiscriminately prescribing exercise without fixed standards and individual medical supervision. While it is essential that the patient remain, during his stay in the sanatorium, as near the physiologic requirements as possible, we have to deal with a very narrow margin and only one with experience in the treatment of tuberculosis should be considered qualified to determine the amount of rest or exercise required by each patient.

The Parkland Hospital, Dallas, Tex., has recently installed a new laundry.

A CONVENIENT X-RAY ILLUMINATOR

Breakage Saved and More Satisfactory View of Radiograph Obtained Through Use of Simple Device

BY W. T. BAILEY, M. D., Assistant Superintendent, and A. B. DENISON, M. D., Special Resident Physician, Lakeside Hospital, Cleveland.

It is doubtless an acknowledged fact that x-ray plates which are valuable for hospital records become smashed and cracked in many instances in which it is impossible to obtain duplicates. This condition is especially likely to exist in teaching hospitals where a considerable number of individuals handle the radiographs. We are all familiar with the method usually employed—viz., the clinician inspects the plate and passes it on to a section of students for their individual observation; this involves considerable time, and there is always more or less possibility of the plate becoming cracked or dropped in the process of passing it about.

We have devised a comparatively simple method whereby breakage is reduced to a minimum, and at the same time a more satisfactory view of the radiograph is obtained and a much shorter period of time consumed, especially where groups of students are examining x-ray plates. A wooden box has been constructed whose ends are equilateral triangles, the dimensions of which are 17

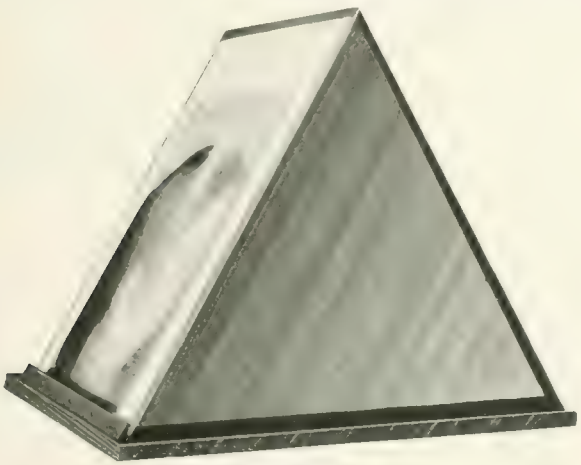


Fig. 1. Convenient portable x-ray illuminator.

inches; the slant surfaces and the base are rectangles 17 by 15 inches. The material used is ⅞-inch hardwood, shellacked on the outside and painted white on the inside. On the side where the socket is attached we have nailed in a strip of wood 2¾ inches wide by ⅞ of an inch thick, this piece of material running the entire width of the box; between it and the outer wall is a space for the electric wires. Inside the box is installed a 100-watt nitrogen daylight lamp, with a switch on the outside of the box, and a cord of varying length with a screw plug which can be attached to any hospital or dispensary electrical current. On the front surface of the box we have used a ground glass plate, which is fitted in flush with the edges of the box. A small gutter of wood is attached to the bottom to hold the x-ray plate. Since it rests against a slanting surface, we have not found it necessary to attach any device to the top to hold the radiograph in position. The weight of the illuminator does not exceed 10 pounds; thus it is readily portable and can be used in any building where there is electricity, provided a sufficiently long cord is used to attach it to a socket.

Already we have made quite an improvement; the diffusibility of the light has been increased by pasting on the inside, about 2 inches below the level of the ground-glass plate, a single layer of white tissue paper. This has done away with the necessity of using any method to shut out the excess light when examining a radiograph.

The first illuminator was made three months ago for a medical ward, but it has proved so convenient and satisfactory that it has been in demand by the other wards; we have since installed two more, and have had requests from the heads of the several departments for one of these illuminating boxes. As yet it has not been experimented with

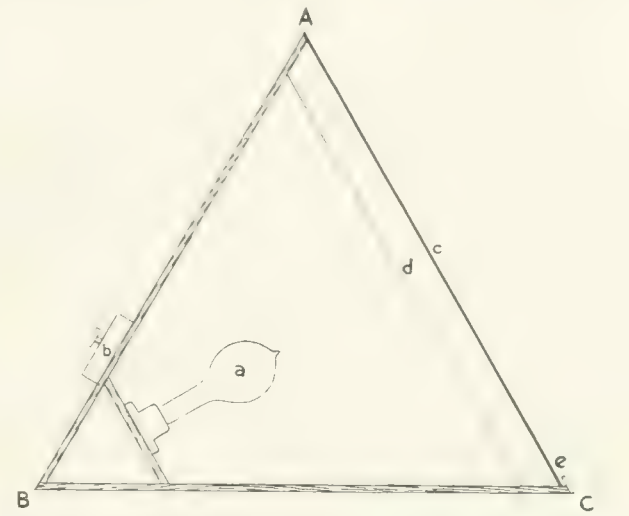


Fig. 2. Diagram showing construction of x-ray illuminator. Length from A to B, B to C, and C to A, respectively, 17 inches; a, blue glass nitrogen lamp (100-watt); b, switch; c, glass plate (ground glass); d, tissue paper or ground glass; e, groove for holding plate.

in the clinical amphitheaters, but we feel that it could be used advantageously in such places, and no doubt it would find a ready field in the surgical and medical departments of the out-patient department. On the whole, we find it a labor-saving device, and, whereas formerly an x-ray plate was handled by some twenty people or more, with the advent of the illuminator it need be handled only twice—when the radiograph is placed on the box and when it is removed.

The expense involved is as follows:

Carpenter's labor and material	$2.00
Electrician's labor and material (including the nitrogen lamp)	2.25
Painter's labor and material	.75
Total	$5.00

It is barely possible that this expense could be reduced quite materially if the illuminator were standardized and a considerable number of them made.

The erection of base hospitals, enforcement of personal hygiene and the installation of a drainage system of the most improved type form a part of plans being put into effect at the plant of the American International Shipbuilding Corporation on Hog Island, Philadelphia, to insure the health and safety of the 34,000 workers. "Shock Squads" to care for men injured on the high-power electric wires; a portable submersion hospital, always present at the point where the greatest number of men are working on the water front, with pulmotors and other necessary equipment for resuscitation; and first-aid stations situated throughout the plant, where there are stretchers and canisters of first-aid materials, are some of the details which are designed to keep the accidents down to the minimum.

The
MODERN HOSPITAL

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SUBSCRIPTION.

Domestic postage, $3.00. Foreign postage, $3.50 (15 Shillings). Single copies, 35 cents.

Domestic rates include United States, Cuba, Mexico, Porto Rico, Canal Zone, Hawaii, and Philippines.

Contributors, subscribers, and readers will find important information on advertising page 42.

Medical Organization to Meet War Needs

Speculation as to the probable duration of the war is not profitable. In the opinion of many it is probable, and everybody will agree that it is possible, that the war may last a long time. The military preparations of the government, including its financial and industrial program, are designed to meet the requirements of a long war. Medical preparations have thus far been less thorough. In the medical field, the federal government has directed its efforts mainly to the obtainment of a sufficient number of medical officers, nurses, and hospital beds to satisfy the needs of the army during the continuance of hostilities and afterwards. These are matters of obvious military necessity which very properly have the right of way. In due time, however, the government must address its attention to the broader medical problems which either spring from or are accentuated by the war. What are some of these problems and how are they to be met?

It is of prime importance that an adequate supply of sanitariums, physicians, and nurses be provided to meet the needs of the army and of the civilian population as well. So far as physicians are concerned, this need has been repeatedly emphasized by various committees since, in drafting the first set of regulations interpreting and supplementing the Selective Service Law, the Provost Marshal General failed to announce a means by which the normal supply of medical graduates could be maintained. But the maintenance of a supply of medical graduates, sufficient in quality and quantity for national needs in peace times, is not the real problem; other needs have to be reckoned with, not alone in the army and navy, but in the national and local public health service, and among the civilian population. In so far as the expansion of existing facilities for the training of physicians and nurses may become necessary, the government will be called upon to provide the means for such expansion, for it is not likely, indeed it is hardly possible, that the people will make such provision for themselves without governmental direction or government aid.

Another problem, closely related to the one just mentioned, is that of making the most effective disposition of hospital interns, students of medicine, and students of public health, who are of draft age. This problem has been solved in part by recent rulings of the Surgeon General's office. Its solution has been facilitated by the voluntary speeding up of courses of study in certain colleges; but much more must be done in the way of modifying courses of study to meet war needs, and it is of the utmost importance that a government program covering this field be speedily formulated.

Again, preparations must be made to meet unusual conditions which may arise in any part of the country as a result of the transfer of physicians and nurses from civil to army life. It cannot be the purpose of the government to disregard such emergencies, any more than the government would be indifferent if a given locality, in consequence of the war, were deprived of its supply of food or fuel. Situations will inevitably arise that will result in great local distress, unless discounted by appropriate measures. We must be prepared to see medical institutions and physicians in civil life brought under government direction whenever and wherever necessary to insure adequate attention to the needs of the civilian population. In England, the latest official proposal along these lines calls for nothing less than the complete nationalization of the practice of medicine—a scheme which this country is hardly prepared as yet to adopt.

It is essential, also, that the government concern itself with measures for the protection of infants and children; that it provide adequate maternity care at least for the wives of the men who are called to the colors; that it make suitable provision for the treatment, in institutions or otherwise, of physically and mentally defective men who are rejected by the army; that it promote

rural sanitation, especially in the Southern states, not alone for the purpose of benefiting the population of those states, but with a view to increasing agricultural production; and that it frame and adopt a comprehensive program for the hygiene of war industries.

Stimulated by the war, the organization of medicine will advance rapidly during the coming year. A wide field of useful activity opens before the medical administrator. Radical changes in the relations between medical institutions and the federal government are foreshadowed.

S. S. GOLDWATER, M. D.

Headway Toward Standardization

By the time this number of THE MODERN HOSPITAL reaches its readers, many of them will have received a questionnaire from the American College of Surgeons. That questionnaire is a sign of "stop, look, and listen" to all hospitals, and, in fact, to the entire medical profession. It is the first step which directly concerns the hospitals in the plan of standardization undertaken by the College.

The first judgment which crowds here for expression on receipt of this questionnaire is this: All hospitals and all doctors should support heartily the project of the College. Each of us should help. The day of cliques and factions in medicine has gone by. That sort of thing belonged to the age before the great war. In this new age we are more broadminded, more kind, and more sane. What we want is results. In a splendid spirit the fact is that the American College of Surgeons today is not merely a society of surgeons for surgeons. It is a society of surgeons for the advance and betterment of the entire medical profession and of all facilities which make for the better care of sick people. Honest, thorough standardization of hospitals is the thing we have hoped for and struggled for during many years. Now it has come. We owe it loyal support.

THE MODERN HOSPITAL suggests that each hospital staff, which has not already done so, hold a meeting, the purpose of which is to consider the questionnaire of the College. There is a vast amount of hospital education in that questionnaire.

There are few hospitals in the country which would not profit by a review of its administration as outlined by these questions.

Most hospitals are already aware of the cooperation of the American Hospital Association and of the Catholic Hospital Association in this plan of standardization. But some few may ask, "Well, how comes it to be the business of the College to inquire into hospital affairs?"

To answer this question, first, the College is a responsible society of about four thousand surgeons. These surgeons, through their organization, make it their business to do anything within their power for the betterment of the practice of medicine and surgery, and the conditions involved in this practice. Such a purpose must include medicine as well as surgery. The surgeons believed they could accomplish more if organized. It is the old story of the flies and hornets. The hornets, by organization, are able to keep their house in order. They get things done. But the surgeons are more democratic than hornets. They are not out to sting.

Again, the College is engaged in the standardization of hospitals because it aims to include in its Fellowship all who possess practical scientific knowledge of medicine and surgery, together with honor, trustworthiness, and strong moral character. To determine on the fitness of candidates for Fellowship is a grave problem which involves an estimate of the candidate's training in the medical school and in the hospital as intern and assistant. The problem is further complicated by the fact that among hospitals there is wide discrepancy in the educational opportunities offered; there is confusion as to the value of all phases of these opportunities even among hospitals of like or comparable equipment. The regents of the College must therefore answer two questions: First, what are the actual standards in the practice of medicine and surgery among hospitals? Second, what is an acceptable standard in the practice of medicine and surgery among hospitals? This second question involves the larger question as to whether the standards among our best hospitals are too good for the humblest patients anywhere on this continent? The regents, therefore, take up hospital standardization as an obligation of their trust.

A second pertinent question which we might ask at this time is this: What is the policy of the College in its entire plan? Since the beginning of the College and its first announcement of entering the hospital field, the College has repeatedly stated that its aim is to be constructive—to be helpful to hospitals, to the profession, and to the public. Further, it has emphasized that the welfare of the patient, his convalescence and recovery, are at all times fundamental in its consideration of hospital efficiency. That is both a wise and an important decision.

If the College is to classify hospitals from the viewpoint of the patient, then it must obtain some definite measure of the success of hospitals from the patient's angle. It must determine a minimum standard of equipment, of organization, and of professional procedure, and, with this standard as

a gauge, proceed to classify hospitals. That is exactly the intent of the College. Further, the policy of the College is that the minimum standard be high enough to safeguard the interests of the patient and low enough to be at least within the reach of the majority of hospitals whose motives are creditable. The limits of such a standard cannot wisely be determined until a thorough analysis of hospital conditions, such as will be provided through the questionnaire, is at hand.

Obviously the standard now attained by some great hospitals with large endowment, research laboratories, and staffs of specialists is out of the reach of many small worthy institutions. At the other extreme is the standard of some hospitals, both large and small, which means in effect that the institutions are merely boarding houses, and that they are unworthy of the confidence and support of their respective communities. The College seeks a standard which lies between these extremes. It seeks to define what right conditions are for patients in terms of thoroughness of diagnoses with due laboratory facilities; of the continuity of the service of competent physicians and surgeons responsible for the treatment of patients; of the keeping of accurate case records with follow-up results; of cleanliness, etc. In general, failure on the part of the hospital to meet the minimum standard will be due to lack of effort and of organization rather than to lack of financial resources.

The questionnaire is the work of the Standards Committees of the College and of the General Hospital Committee of the College. Effort has been made to ask for no unnecessary data, and in so far as possible the questions have been asked with a view of minimum work on the part of hospitals. Most of the questions may be answered by figures and by *yes* or *no*. The character of the questionnaire is a pleasing indication of the thoroughness with which the College proceeds in the great task of standardization.

A Remarkable Sociological Experiment

If we had followed our first inclination, the title of this editorial would have read, "A Milestone in Social Progress," or something similar. We want to be conservative, however, and, since the Children's Clearing Bureau of New York, described on another page by Mr. Frank C. Brooke, has only recently been established, we are designating it as an "experiment."

What is there to focus attention on this institution for dealing with New York's dependent children? As will be seen by reference to Mr. Brooke's article, in the past the city of New York distributed the dependent children who were its charges in a more or less haphazard manner among the various children's homes or other private charities for the benefit of children. The effort is now being made through the Children's Clearing Bureau to ascertain the individual child's needs and to assign him to the particular institution best fitted to care for those needs. This is certainly laudable progress in charitable administrative methods, but, it may be thought, not of startling significance. Perhaps not, if this were all; but there is a feature connected with this bureau which is worthy of most serious attention and study.

Every child admitted to the Children's Clearing Bureau receives a thorough examination for every phase of his physical and mental being, and every remediable defect found receives correction, so that the child begins his new life at a level as near one hundred percent physical and mental perfection as is possible for him to attain. Think of it!

Perhaps it is not easy to grasp the full significance of this measure in a moment. In the first place, how very few human beings there are who have ever been examined, not merely to find out whether they had tuberculosis, or adenoids, or a broken bone, but in their totality, to find out just how near or far they come to being a perfect human being! Mr. Frank A. Manny, on another page of this issue, tells of a girl who was referred to the nutrition clinic. From her history it appeared that few children of her age had been examined so many times as she—for this, that, and the other specific defect. But, as each examining specialist was intent only on his own particular specialty, no one had paid any attention to the malnutrition which was undermining the child's whole being. No wonder that examination of candidates for the army show up so many hitherto unsuspected defects—some still remediable and others which perhaps would have been remediable if discovered earlier in life. Think what it would mean to our national efficiency if every child in the land could receive at least as thorough and comprehensive an examination as is given to army recruits and to these dependent New York children!

In the second place, we are told, every defect found in these children is corrected so far as this is possible. Each child is made as nearly perfect as he can be made. The possibilities of that idea are so big that we are almost afraid to talk about them. Of course, it is quite utopian to think about giving to all the rich, poor, and middle-class children in this country the advantages bestowed on these fortunate waifs of New York. But it is

pleasant, as a relief from the horrors of war, to let one's mind play idly with the idea.

Meanwhile, we wish to remark that Mr. Brooke's article will be found an extremely interesting one, and readers may profitably turn from it to Mr. Manny's article on "Nutrition Clinics and Classes."

A Cooperative Plan for Industrial Welfare Work

During the past four or five years many hundreds of industrial corporations have seriously turned their attention to methods for increasing the efficiency and improving the health and social condition of their employees. Many millions of dollars have been expended in the erection and equipment of special industrial hospitals, and some of the best social agents in the country have been studying methods by which to bring these industrial welfare departments up to the highest possible usefulness.

During the past year or more THE MODERN HOSPITAL has attempted to conduct a department in industrial welfare with a view to aiding the industrial world in health work among employees and in the standardization of hospital and social service. Until now nearly all the material published in this department has concerned the efforts of individual corporations to achieve something on their own account. Very much has been done through suggestions of one corporation that have been made use of by others, and there is no doubt that industrial welfare has gone forward by leaps and bounds during this past year.

In a final analysis, industrial corporations are not engaged in health work; at least, health is not presumed to be one of their products or assets, and as a rule corporations are obliged to employ someone properly equipped, mentally, morally, and physically, to handle their work in this field. If the right sort of conditions can be established here, would it not be better for many of these corporations, especially those in the largest cities and employing very large numbers of people, to get together in a cooperative way and do their social welfare work in common? And if the cooperative plan itself is a good one here, would it not be better to assign that cooperative work to an organization whose personnel, organization, and administration are equipped in every way to deal with health and social problems?

In his series of articles on the standardization of hospitals, Dr. Hornsby takes up industrial hospitals in this month's installment. As will be seen, Dr. Hornsby believes that the cooperative plan is probably the solution of the problem which will be favored by the future. In this connection we wish to call attention to an article by Mr. Barrow B. Lyons, financial executive of the Northeastern Hospital of Philadelphia, which appeared last October. The cooperative plan seems to have been well worked out in this hospital.

One of our earliest publications in the Industrial Welfare Department concerned such a cooperative arrangement between some large corporations in Detroit. That plan is working well, and the cooperative hospital built there is doing a wonderfully fine work, but in Mr. Lyons' article we have a hospital already organized, with medical staff, interns, nursing corps, and trained department heads, and, best of all, a thoroughly equipped hospital in its scientific departments that may be utilized for the benefit of the industrial institutions of the community. It appears that in the Northeastern Hospital the plan has been worked out to the finest detail, and we would urge corporation managers and social service agents to study the Philadelphia project by reading Mr. Lyons' paper.

The Opportunity of the Small-Hospital Superintendent

Hospital men and women stand today at the parting of the ways. We have said something of the kind on previous occasions; we want to emphasize it now. One way leads to higher levels of efficiency and success than have ever been attained before; the other leads to the dust-heap. There is no middle way henceforward.

A hospital superintendency has too often meant, in the past, not a profession, but a job. It was a job awarded, not to the man or woman best fitted by experience and professional attainments, but to the politician with the strongest pull, to the broken-down physician and professional failure who has a brother-in-law on the board of directors, or to the deserving and penniless widow who is a perfect lady and doesn't know how to do anything except to keep house, but who surely ought to be able to run a hospital. That has been our American way. Several of our American ways are to be changed.

After the war is over, men and women will come back from "over there" with vision sharpened to the deadly dangers of inefficiency. Here, those dangers are spread thin over long periods of time, and we have forgotten that they exist; there, inefficiency means not slow, but swift, destruction. Those who come back will bring with them new standards of values, and bluff and good intentions will no longer be accepted as the equivalents of efficiency.

What does this mean to the small-hospital su-

perintendent? It means, Prepare to move. You can't simply hang on. If you have good professional qualifications, if you have kept yourself up to date by attending conventions, reading, coming into contact with the best minds in the profession, if you have let your colleagues and the world know that you are alive by publishing the results of your experience from time to time, then prepare to move onward and upward to wider fields and higher responsibilities. If not, then prepare to move down and out. Opportunity is here—with gifts in one hand and a ticket to oblivion in the other. Choose!

The Personal Touch in the Hospital

The hero of an old tale, on the way to put his fortunes to the test, passed through a room inscribed on three sides: "Be bold," "Be bold," "Be bold," and on the fourth, "Be not too bold." The antechamber to hospital success might well be inscribed on three sides, "Be efficient," "Be efficient," "Be efficient," and on the fourth, "Be not inhumanly efficient."

The best interpreters of the maxim on the fourth wall should be found among small-hospital superintendents. It is easier to remember that a hospital is not merely a machine for grinding out cures when the institution is small enough so that the staff members do not lose all sense of personal relationship. Then, too, the superintendent of the small hospital is frequently or generally a woman, who traditionally should be better able than a man to maintain a homelike atmosphere within institutional walls. If there is such an atmosphere in the hospital, it nearly always radiates from the superintendent's rooms.

We know some superintendents whose rooms in the hospital are the "holy of holies" that no one would dare to enter except when summoned on the carpet; and, again, we know a hospital with another kind of superintendent, whose rooms, with their attractive pictures and new books spread invitingly about, have a friendly welcome to all comers. A real woman's apartment this, as you cannot help but perceive, for there are always tea things about, and, in a mysterious corner of the bookcase, a jar of homemade cookies and another of marmalade. But what counts most of all is the knowledge, shared by all in the hospital, that here abides a friend and counselor as well as a superior officer. Many a knotty problem has been unraveled over the teacups in this little home corner, and many a hospital worker has found here strength and courage after a trying day. And even the little probationer who receives a yellow envelope with dread news from home knows that she can enter and have her cry out on some one's shoulder.

Do you smile at this sketch of the feminized hospital, efficient friend? Know, then, that, as oil is to the efficiency of a machine, so is personal kindliness to the efficiency of an institution. Devitalized, dehumanized—shall we say Prussianized?—efficiency is only half efficiency where human beings are concerned. Let us by all means uphold ethics, let us maintain discipline, let us strive for efficiency; but let us not forget the personal touch that makes all these things vital.

A Problem in Conservation

The war, by drafting into the regular or reserve army medical service unprecedented numbers of physicians, has thrown a staggering burden on the shoulders of those who remain. How can the depleted ranks of the civilian medical profession care for the medical needs of the civilian population? Manifestly they can do it only on condition that their efforts are expended to the best possible advantage. In the rural districts, for instance, if we continue to allow seriously sick persons to remain in their remote homes, some of them will suffer neglect simply because it is not humanly possible for the man whose days and nights are already full to the brim of this kind of practice to take over the territory previously covered by his colleague now at the front. This means that more and more the patient must be brought to the doctor instead of the doctor going to the patient as heretofore. In other words, it means more hospitals—especially more small hospitals.

But there are many communities that cannot afford even the least expensive form of new building. Almost any kind of new construction will cost twenty-five cents per cubic foot, or approximately fifteen hundred dollars per bed; for a thirty-bed hospital this would involve an expenditure of thirty thousand dollars, which is out of the question for many poor communities. With the price of building materials what it is, and funds for public improvements harder to procure than ever before, how are we to obtain new hospitals? One answer—probably *the* answer—to this question is the converted dwelling house for hospital use. In almost every town there is a fine old home or two available for hospital purposes, and the owner, if a wealthy absentee, may be glad to present his unused residence to his home town for a hospital. Generally, such a residence can be converted into a very good hospital for not more than 10 percent of what a new building would cost. And, if it is a well-run, serviceable

hospital, it will be far easier to get money for a second and more expensive unit than it was for the first.

If anyone has a better answer to present, he is the one from whom we want to hear, and that right speedily. One thing is certain: as a matter of war-time morale, if nothing more, we cannot allow the health of the civilian population to suffer. Nothing will so speedily and surely detract from our war-time efficiency as permitting disease to spread among the population. We must find a way to meet the emergency.

For this reason we regard Mr. Edward F. Stevens' paper, "Remodeling a Dwelling House into a Hospital," published elsewhere in this issue, as a particularly important one just at this time. The dwelling house the conversion of which Mr. Stevens so well describes became a hospital many years before the outbreak of the war, but the publication of this paper has a peculiar timeliness right now. Mr. Stevens has worked out the problem so skillfully through two stages of growth that his article will repay careful study, and we commend it to the attention of those communities in which a hospital, though a necessity, may be difficult to obtain.

The Small-Hospital Number

We believe that this month's MODERN HOSPITAL will be found a particularly interesting and practical number. We can say this without boasting, for the credit belongs to our contributors, most of them administrators of small hospitals. It is very encouraging to see that, among the able superintendents of small hospitals, there are so many who can write nearly as well as they can run a hospital, and in these days it is becoming nearly as necessary to be able to do the one thing as the other. We remarked in one of the preceding editorials that this is the day of opportunity for the small-hospital superintendent, but that it will be necessary to move upward and onward, or down and out; the days of the superintendent who is merely hanging onto a job are numbered. Now, the forward-looking and onward-moving man and woman will want to share his or her experience with others, to give the profession the benefit of the individual's achievements, just as is done in every other progressive profession. Moreover, it is becoming necessary for hospital superintendents who have a regard for their own future not to hide their lights under bushels. This is going to be a mighty busy world, not only during the war, but for many a long year thereafter; it is going to be too busy to hunt up the man or woman who is too busy to let the world know that he or she is alive. Some new leaders are bound to develop in the profession during these trying times. We believe that it will be safe for anyone who wants to know the names of some of these future leaders to keep an eye on the contributors to this and future issues of THE MODERN HOSPITAL.

Cooking as a Vocation for Handicapped Men

One of the pressing necessities of the day is the need to find really useful work which may be advantageously done by handicapped workers. In January we published a most interesting account of one measure to meet this demand, namely, the workroom for the blind in the establishment of the Crocker-Wheeler Company, manufacturers of electrical apparatus. This month we publish an article in which Dr. John F. Bresnahan, assistant resident physician at the Massachusetts General Hospital, makes a suggestion which appears to be of great timely and practical value. The demand for men cooks in such places as lumber camps, construction camps, fishing vessels, and night lunch wagons is greater than the supply. Employment is steady and the wages are good, but the men obtainable are untrained and usually of unsteady habits, perhaps addicted to alcohol. Why, asks Dr. Bresnahan, should not handicapped men be trained for such positions by simple instruction in the elementary principles of cooking, food values, and culinary cleanliness? This suggestion has a double value. We are learning that the cook is too important a person to be left untrained. The careless, wasteful, unclean cook, like the quack doctor, is a menace to private health and public wealth. Dr. Bresnahan's plan promises not only to provide occupation for a number of handicapped men, but also to improve the supply of cooks. We hope to hear before long that classes in cookery for handicapped men are being offered in one or more larger cities.

County tuberculosis hospitals are now in course of construction or soon to be erected in 18 counties in the state of New York, under a state law requiring that every county having upward of 35,000 population and not already maintaining a tuberculosis hospital shall establish such an institution and have it ready for the reception of patients by July 1, 1918. The counties that have already taken definite steps toward complying with the law are: Rensselaer, Niagara, Steuben, Otsego, Rockland, Broome, Chautauqua, Columbia, Herkimer, Livingston, Wayne, Nassau, Allegany, St. Lawrence, Madison, Delaware, Clinton and Genesee. Franklin and Sullivan counties are expected to take action on the hospital matter at an early date. Washington county questioned the constitutionality of the law, but its counsel has lately given an opinion that the state legislature did not exceed its authority in requiring the counties to establish hospitals.

HOW THE SMALL HOSPITAL MAY GIVE HIGH-GRADE SERVICE

Growth of the Hospital Field in Kansas—How to Grade Charges—Graduate Versus Pupil Nurses

BY F. W. SHELTON, M. D., Independence, Kan.

The past decade has witnessed the most extensive establishment of hospitals that this country has ever known. Physicians as well as the laity of small cities and towns have recognized the great benefits to be derived by hospital treatment of a large number of cases that would be deprived of such care, were it necessary for them to be removed to the large hospitals in distant cities. This has been especially true in our own state, no less than fifty hospitals having been established in Kansas the past ten years.

This rapid development of a comparatively new enterprise, enlisting with it the services of many new and in some cases almost inexperienced persons, has involved, as a result, many errors in administration, which must accompany the pioneer in the establishment of any new business. The administration of the small hospital is considered as being different from that of the larger institutions, as I think it is conceded that, for the most part, the problems of the two are very different, and the suggestions which follow refer more to the needs of the smaller hospital.

There are almost no available hospital statistics, or data, regarding the administration of the numerous institutions in the state. Great benefit should accrue from making available for study, material from all the institutions within the state, upon such subjects as staffs, superintendents, training schools, interns, keeping records and accounts, buying, laboratory, laundry, etc., from which deductions and general averages may be computed for future reference in the conduct of the various departments of each institution. Many hospitals, no doubt, have neglected making these deductions from the material at their disposal in their own institution, and while checking up each department in compiling this information they will no doubt discover errors which they can correct, and the correction of which may add greatly to their economical efficiency.

Efficiency in service and economy in administration must depend upon systematic cooperation of all departments. Case records, showing a careful study of each, giving history, symptoms, clinical findings, laboratory and special examinations made, diagnosis, treatment, and results, must be carefully compiled and placed on file for reference. Special attention that each patient's chart is a careful and true record of their condition and treatment must not be overlooked. To accomplish this, each nurse in service must be instructed in minute detail concerning the importance of care in making chart records, and no excuse should be tolerated for making false or careless entries. No other single thing will accomplish as much toward insuring good service to each patient as a perfect chart which records their actual condition and treatment.

Careful and efficient nursing, with the present high cost of all materials used, and employees' wages necessary, cannot long be furnished, even with gifts and endowments which some may have, unless the management at all times respect the per-capita cost of such service. If good and efficient hospital service is to continue, the charges to each patient must be based upon an established per-capita rate, plus any percentage that may be made necessary by marked advance in cost of material used. Charges for room must depend upon cost of food products, heat, ice, electricity, and incidental expenses, in addition to cost of nursing, and extra charges should be made for operating room service, hydrotherapeutic treatments, and expensive special articles of diet. Care should be taken in assigning rooms and making rates, patients being given, as far as possible, rooms that are in keeping with their probable demand for time and special attention. Patients occupying cheaper rooms usually receive less special nursing, less in special diets, and less in all extras. Charges for all extras should be made on a basis which will allow for loss, shrinkage, interest on money invested in special apparatus, and time spent in administration, in addition to a fair profit over cost of material used. In this way the hospital is able to increase its earnings from those who are able to afford these extras, and make the average necessary to be maintained without loss in operation, and still be able to furnish satisfactory or even excellent service to those who are able to pay only moderate fees, and to include a certain number of necessary charity cases.

The question of credit is one which confronts the management of hospitals very frequently and one which is not always easy to handle. As hospital business is not for profit, and as, in fact, very few hospitals make operating expenses, credit should not be extended. Hospitals, like hotels, should adhere strictly to business upon a cash basis, and soon the public would cease to expect to receive service on account. We may be unable to avoid doing a certain amount of charity work, and a large percentage of the work may necessarily be at a rate which is barely sufficient to cover the actual cost of material used, but, when a charge is to be made at all, we can exact that the payment be made by the week in advance. Those who are unable to secure funds in an emergency to assist them with necessary hospital fees will seldom be able to settle the account later, and one of the poorest assets that a hospital can have is an unsettled account, which usually is sufficient reason for the debtor, in trying to justify himself for not paying it, to complain of the service he received, and thus become a knocker instead of a booster.

A few years ago I attempted to collect an account of this kind more than a year after service had been rendered a patient who for three weeks had received treatment for severe gastritis and had been able to retain but little food taken by mouth during her stay in the hospital. The excuse given by the husband of this patient for not paying the account was that his wife had been so starved while in the hospital that after her return home it had cost him a hundred dollars for extra food in order to get her in as good condition as she was before entering the hospital. This incident will serve to illustrate to what extremes those owing an account will go in trying to find an excuse for not settling, after the service has been rendered and they have had time enough to forget how badly they had been in need of relief.

Care must be exercised in the selection and control of employees, first, as to their fitness for the work expected of them. Preference should be given first, to those who have been previously in the employ of the institution and have given satisfactory service; next, to those who have had the most experience elsewhere in the same kind of work as that for which they are seeking employment. Any special adaptability for the position which they occupy should be recognized and suggestions from them as to improved methods for handling their work should be encouraged. An inexperienced, incapable employee is expensive in any department, and special talent and service from an employee should be recognized by commensurate remunera-

tion. Long terms of satisfactory service should be encouraged by increase in compensation in excess of the usual salary for the position they occupy. I believe it is economy to spend money to retain the service of efficient and trusted employees rather than tolerate the waste and poor service which results in frequent changes in help.

The question of the nurses' training school as against the employment of graduate nurses for general duty in the small hospital is one of importance and one about which there seems to be considerable difference of opinion. Only recently we read in one of the leading hospital magazines an editorial in which it was advised that hospitals of thirty beds and less should not attempt to conduct a training school, but should employ graduate nurses for general duty. I venture the assertion that this recommendation came from one with slight experience in the conduct of a small hospital. To be sure, the perplexities that arise in the management of a training school in the small institution are many and require the judgment which comes from experience to meet them, but I believe that these are of less consequence to efficient service than those which result from the necessity of frequent changes, incompetent graduate nurses available for general duty, and the lack of team-work and cooperation that is unavoidable where graduate nurses are employed. My experience of more than ten years in the management of a twenty-bed hospital has been that most of the graduate nurses whom one can employ for general duty in a small institution have become so adherent to certain methods that cooperation is difficult and friction is often unavoidable. I prefer, for service, nurses in training more than one year to the average graduate nurse who can be secured for general duty. The nurse in training is more interested in her work and in the service rendered by the institution of which she is a part. An economical element which enters into this question also is the income that may be derived for the institution by the employment of senior nurses for special duty on cases in the hospital. The matter of the benefits to be derived by the nurse in training in the small hospital as compared to those in the larger institutions will not be discussed here, as it would require too much time, and I have already presented my views on this subject in a previous paper before the Kansas Hospital Association.

Efficient and economical hospital service, satisfactory both to the board of directors and to the patients, and the solution of a large portion of the problems which present themselves to the hospital management must depend upon the superintendent. In the smaller institutions, where the responsibility of the hospital management and the training and control of the nurses must be combined and the entire responsibility placed upon one person, it is quite necessary that this person, to be entirely successful, shall have had experience in several lines of work. One of the first requirements of an ideal superintendent is her ability to meet, on a level, all classes of individuals, as patients, their family and friends, and those who have other business relations with the hospital, to satisfy their wishes in a courteous businesslike manner, to be able to say "no" when necessity requires, and still not lose friends for the institution. We might call this "business tact."

The superintendent must be able to organize her nursing force and other employees of the institution in such a manner that each one will have a thorough understanding of just what is expected of him and to appreciate the importance of cooperation in order that the institution may render efficient and economical service. This cannot be accomplished in a domineering way; the superintendent must always manifest a sympathetic manner with a kindly disposition, showing each one her willingness to assist over hard places, and not being too harshly critical of errors that are made. Each one under her direction should feel at all times perfect freedom in coming to her with any question regarding their work or reporting any errors they may have made, and be assured that she will not be harsh in her condemnation and that they will receive from her the kindly assistance and wholesome advice so often necessary to tide one over discouraging places in the training. From nurses in training too much must not be taken for granted by the superintendent. Very often it is difficult to explain satisfactorily just how a certain duty is to be accomplished, when a practical demonstration in their presence immediately removes any question that may exist. Again, the superintendent must direct the pupils, sometimes repeatedly, through some difficult treatment, in order that they may not develop improper technic.

One who is not so sensitive to her surroundings that she will not be immediately impressed by disorder is not of a temperament to make the best superintendent. An untidy room, a dissatisfied patient, an incomplete or unsatisfactory chart, loud or unusual noises, improper heat or ventilation, a leak in a sterilizer or water line—in fact, any evidence of incompetence, inefficiency, carelessness or waste, should not escape her scrutiny in her regular rounds of the institution. The item of waste alone can cost the hospital more than the salary of a good superintendent, unless she is alert and competent and attentive to leaks in the various departments. Salary alone, regardless of amount. is not sufficient incentive to induce efficient service on the part of a superintendent. She must be really in sympathy with her work and feel a personal interest in giving efficient and economical service and in the success of the institution, if she is to be rated as an ideal superintendent. When this is evident in the successful and economical administration, officers of the institution will recognize her value and her compensation will increase accordingly.

Allow me to repeat in closing that any hospital, regardless of size, whose ideal is to furnish efficient and satisfactory service, will find the solution of most of the perplexing problems and become successful, both in efficiency and financially, through the untiring and earnest efforts of a capable and conscientious superintendent, and without such a superintendent no hospital, regardless of its ideals or financial support, can be successful.

The Individuality of Mentally Defective Persons*

BY HELEN MACMURCHY, M. D., Inspector of Auxiliary Classes, Department of Education, Ontario, Canada.

It is the highest work of the parent or the teacher to train the younger generation for noble and independent life. Parental and educational control is intended, not as an end in itself, but as a preparation for the time when self-control shall take its place. But self-control and independent life are not for mental defectives, either in their own best interests, or in the best interests of the family, the community, and the nation. Common sense forbids it. In the nature of things it cannot be. Mental defectives may be nearly or quite self-supporting; they can never be self-controlling or self-directing, except in a childish way, and they never can be the masters of their own fate, except at the cost of disaster and ruin to themselves and others—disaster that affects future generations as well as the present generation, and that tends to undermine, as far as it goes, the security of the homes and the nation

*Read before the American Association for the Study of the Feeble-minded.

concerned. Mental defectives are permanent children. They never put away childish things. They are no wiser at thirty or forty than they were at half that age. There is no cure for mental defect. To try to train a mentally defective person for an independent life is to attempt the impossible—to do no good and much harm.

We all agree about this. There is no difference of opinion. Provided always that we have made sure that the person in question is mentally defective, that there is no mistake in the diagnosis, there can be no two opinions as to the statements now made. Indeed, these conclusions are self-evident—and they are only stated here as a starting point.

But now that we are all assembled at the starting post, perhaps we might reflect that there is no starting post so true and straight that it may not lead us into error by the shadow that it casts, as it were. Mental defectives are not intended or adapted or equipped for independent and self-directing life. True. But that does not mean that it is impossible for any one of them to have quite an interesting personality, and a mind which is a source of enjoyment to the possessor and to you and me, who may have the privilege of their friendship and of frequent association with them.

There may be a continent in that poor brain which but awaits Columbus. There may be an island there reckoned by us not indispensable, which yet may really be as useful as Heligoland has been found by a certain enemy nation.

Dr. Charles Bernstein, of Rome State Custodial Asylum, showed, at a recent meeting of the New York State Medical Association, one of his "boys" who had been in the institution ten to twelve years before anyone took much notice of him. His mental age was about three years or less. Then one day somebody made the discovery that he was a very interesting person. He could do something which you and I cannot do, never could do, and probably never will be able to do. He could tell you in a moment or two on what day of the week any given date, past or future, falls! There he stood, before the members of the New York State Medical Association, repeating in simple slurring speech, "What-a- day-a- was-a- the twenty-first of May, 1901, What-a- day-a- Why-a- it was-a- Tuesday."

What corner of that poor darkened brain was working so accurately? What secret power had he that we have lost or never possessed? What scientific explanation is there of that mental calculation—and could it not be used in some way for the possessor's benefit and for the benefit of others? All these and some other interesting questions remain for some genius among us to answer.

By far the most promising field in which to search for the hidden secrets of mental action is the study of the simple and rudimentary working of the minds of those whose brains have not developed as far as that very complex thing commonly known as the "average" or "normal" brain. And while we are waiting for the genius, has none of us any simple common-sense suggestion to make as to the use to which such an endowment might be put? He can "shew us a thing," to use the language of Scripture. If we only knew how he does it, we should be wiser than we are at present!

It may be objected by some friend that the accomplishment of Dr. Bernstein's boy is not a useful one. Friend, how dost thou know that it is not useful? It is not so long since those who tried to make flying machines were considered madder than any March hare. Now we call these wild ideas, materialized in metal, wood, and cloth, "aeroplanes," "hydroplanes," and other grand names, consider them indispensable, and depend very much upon them, among other things, to secure that victory without which it is likely enough that civilization may perish from the earth for an aeon or two. No atom of truth, however small or mad it seems, considered apart, is to be despised. It may be the lost link that mankind has long looked for, and never found before.

But these individual powers, or gifts, or endowments, or peculiarities, or oddities, or differences, or whatever else one has a mind to call them, are interesting in the concrete, in the person, as well as in the abstract, before and after the aviator flies, as it were.

In one of his essays, William James remarks on the fact that the wisest things he had ever heard were most of them remarks from some unknown individual, often engaged in some humble employment and without any educational and other advantages. He gives as an instance a remark made by a man sent to his house to "sort" (as the Scotch would say), a fireplace, about which something had gone wrong. Mr. James fell into conversation with him, and thought him very intelligent. In the course of the conversation the workman happened to say, "There is very little difference between one person and another when you get down to the bottom, *but that little is very important.*"

The views of Mr. James as to the wise opinion of comparatively humble persons have a double application to the point now under discussion. In the first place, mentally defective persons do sometimes make wise remarks. One of my best boys, who was very near the border line, almost, but not quite able to manage in the world, passed as normal until he met the multiplication table. Never before had his mother or any of the family felt anxious about him. Every evening, all that winter, she worked and worked to put him over the stile, but it proved an insuperable barrier. He could not learn the multiplication table. Finally, feeling that her efforts were unavailing, he tried to comfort his mother, "Never mind, mother," said he, "I think the arithmetic corner of my brain was never finished."

Think of that! Has any champion for the feeble-minded, however eminent, ever put the case better? Other instances of wise remarks will undoubtedly occur to every experienced worker among mental defectives.

In the second place it is these very "little differences between one person and another when you come down to the bottom," that are the stuff of which personality is made, and lend to it that nameless charm which is amongst the most enduring and powerful of human influences.

In one "almost," to borrow Victor Hugo's name for our poor friends, the feeble-minded, you find a power of steady loyalty and faithfulness that many a normal person lacks. These powers are among the highest and sweetest in personality.

In another "almost" you shall discern that instinctive and infallible first-sight knowledge of character that is said to be the special prerogative of dogs and children. In the township of Pickering, near this city, there lived for many years in a hospitable farmhouse a certain "Jimmy," and I have heard one of the farm ladies say that when a stranger came to these parts, no one ever thought of troubling much about his character. All they had to do was to ask "Jimmy" what he thought of the man. Like all oracles, Jimmy took a little time and sometimes replied in parables, but it was the universal opinion, all the same, that Jimmy had never been known to make a mistake in such cases.

But the most important thing is the undiscovered gifts. They are there. There is no human being who does not carry to the grave great undiscovered powers and possi-

bilities. The injustices of life crowd them out. The soil is fertile and the seed fell there, but the birds of the air, unhappily, carried off the seed and devoured it, and it never grew. And life is too short. We have no time to bring out what is in us. We can only finish a sample or two! "Man's reach must exceed his grasp, or what is Heaven for?"

No one has the large-heartedness to dig down to the bottom of us and find the treasure, and tell us what to do with it, and keep on believing in us till that belief is justified. The powers were there.

> "Some mute inglorious Milton here may rest,
> Some Cromwell, guiltless of his country's blood."

What is thus true of human nature in general is true of mentally defective persons. Hence the wisdom of the modern methods pursued at Starcross and Sandlebridge and Earlswood in England, at Waverley and Vineland, and all other of our best training schools, to look for the powers of the inmates until we find them. The voice and musical capacity of every inmate at Waverley is tested on admission. He or she may have some musical endowment. This is a fine thing to do—to look for an endowment. At Starcross some girls who were so feeble-minded that they scarcely possessed the power of speech have finally learned to make beautiful Honiton lace and so become much happier and almost self-supporting.

Mentally defective persons must be tried at this and that and the other occupation until we discover their gifts. Their opportunities must be multiplied. The chamber of their minds is such a tiny place that they are very soon "bored," and find it hard to "turn round in their minds." But the gifts are there. We have to discover them. Dr. Bernstein's boy was at Rome State Custodial Asylum for ten or twelve years before anyone discovered his "peculiar genius."

We are for ever and a day making this mistake of overlooking and undervaluing each other's gifts and possibilities. They are there, but we do not see them. We do not get them into focus. But the voyage of discovery has often proved very profitable in the history of the world. It will be equally profitable in the history of the care and training of mental defectives.

A VERY SMALL COMMUNITY HOSPITAL

Lexington, Miss., Shows What Can Be Done in a Small, Poor Community, and Gives the Figures

There is a pretty general feeling in this country that every community of any considerable size ought to have a hospital of its own. We are not all agreed as to the minimum size, character, and wealth of the community that can afford the luxury of a hospital; it is refreshing, therefore, that we are able to report on this subject through the medium of some correspondence with Dr. L. S. Rogers, superintendent of the Mississippi State Hospital at Jackson, who was largely responsible for the establishment of the little home-grown hospital at Lexington, in that state. Volumes of comment could not add to this human-interest story; hence we let it be told in the following two letters:

To the Editor of THE MODERN HOSPITAL:

Some time in the early part of last year, I wrote you in regard to the feasibility of the establishment of a community hospital in small towns of fifteen hundred or more inhabitants. I received a very favorable reply from you on the subject, with the statement that you intended to publish a series of articles in THE MODERN HOSPITAL on this general subject.

I presented the community hospital proposition to a meeting of the Holmes County Medical Association in Lexington, Miss. Lexington is a thriving little country town of about twenty-five hundred inhabitants, and is the county seat of Holmes County. The physicians and the people of the town took up the proposition very readily. All the churches of the town joined in, and each denomination furnished a ward. Some individuals furnished rooms. The Board of Supervisors of the county gave $50 a month to help pay the current expenses and to have their sick from the county poorhouse treated.

Each community will have to modify its organization to fit local conditions. In the organization of this community hospital each denomination, The King's Daughters, and the county had a director. The Catholics and Jewish people joined earnestly in the work. Each physician attends to his own patients in this hospital and collects his fee as in private practice. I feel sure this is one of the best ways for small towns and communities to get much-needed hospital facilities.

Should the report of this community hospital be of sufficient interest and you think it will be of benefit to small communities in aiding and encouraging them to build small community hospitals, I shall be glad for you to publish this in your valuable journal. I am enclosing a very interesting report from Rev. G. T. Gillespie, who is president of the board of directors. I hope you will embody his report in this communication.

L. S. ROGERS,
Superintendent Mississippi State Hospital, Jackson, Miss.

REV. DR. GILLESPIE'S REPORT

Dear Doctor Rogers:

I have your letter of the fifth asking for a general report of the work done in our community hospital. Replying to your request, I shall endeavor to give you the facts, and you may draw your own deductions.

We have rented a house of ten rooms for $20 a month. We had to spend considerable money in repairing and painting the interior to fit it for our purposes. We have equipped four private rooms of one bed each, two wards of two beds each, operating-room, reception-room, dining-room and kitchen; in addition we have fitted up an annex having three beds to serve as a ward for colored patients, making in all a hospital of eleven beds. The total amount expended for equipment and refitting the building has been approximately a thousand dollars, or, to be exact, $997.52. Several of the rooms have been furnished with chairs, tables, etc., by various church societies and individuals, of which no account has been taken in estimating the cost of equipment. Other donations of linen, silverware, utensils, etc., have been left out of the estimate. We could hardly say what would be the value of these various gifts; possibly $250 in all.

We have raised in cash, by solicitation and voluntary subscription, to date, $1,074.90. We are hoping to push the fund up to $1,500 before we end the campaign. Funds are still slowly coming in. We have one bed devoted to emergency charity cases, in consideration for which the board of supervisors allows us $50 a month, if we need that much to meet operating expenses.

We began operation October, 1916. The receipts have been as follows: October, $190; November, $101.50; December, $65.45; January, $119.95. The operating expense has averaged about $200 per month, including nurses and matron's salaries. With the $50 each month from the county, we have had a deficit of from $40 to $50 a month on an average. We had counted on this for the first year, and a part of the $1,500 to be raised was to be used as a sinking fund to meet the deficit in the months when expenses exceed income.

The report for January showed eleven patients treated, four operations, one charity patient, one death. Dr. Darrington, from Yazoo City, has performed two operations in the hospital, both highly successful. Dr. G. G. Ashe, and Dr. R. M. Stephenson, local surgeons, have done most of the other work with the assistance of the other physicians. Successful operations for appendicitis, gallstone, tumors, diseased ovaries, and various other maladies, have been performed.

We employ one graduate nurse, salary $50; one nurse in training, allowance $8; one matron, salary $50; one cook, wages $6 per month; one porter, wages $12 per month We have a good milch cow and a garden-plot, both of which will cut expenses in the summer.

Our rates are $2 a day for private room, $1.50 for bed

in white ward; $1 a day in colored ward; $3 for use of operating-room for major operations, $1 for minor; $3 a day for special nurse; a special arrangement for feeble persons of $40 a month.

Those who have been treated at the hospital are unanimous in its praise. The people generally consider it a real benefit to the community, and the doctors encourage all available patients to go to the local hospital.

With grateful acknowledgment of your personal interest and assistance in making the enterprise a success, I beg to remain,

G. T. GILLESPIE,
President of Board.

A SMALL SANATORIUM FOR THE TUBERCULOUS

Seclusion of the Country on Manhattan Island, Fifteen Minutes From the Subway—Dwelling Houses Successfully Adapted to Hospital Uses

BY EDWARD H. CLEVELAND, M. D., Superintendent of the Hospital and House of Rest for Consumptives, Bolton Road, Inwood-on-the-Hudson, New York.

The Hospital and House of Rest for Consumptives is ideally situated on a high wooded hill overlooking the Hudson River. Its surroundings are distinctly rural, with the quiet and seclusion of the country, and yet we are on Manhattan Island, only a quarter hour from the subway, and hardly forty minutes from the Grand Central terminal.

Two large, substantial dwellings have been admirably adapted to hospital uses. These are connected by a covered way on the second floor, including nurses' office and serving room. One building has the office, chapel, assembly room or parlors, and store rooms on the ground floor, all directly accessible. The other building, constructed originally on a similar plan, with large entrance hall and wide stairway, has the library, dining room for patients, dining room for nurses, and kitchen and serving rooms on the ground floor. Spacious porches on the two floors and on the sides of the houses, as well as on the front, screened in summer and adorned with flower boxes, encourage the outdoor life. These porches have beds for night use and steamer chairs for day use. The men patients who must be in bed part of the day are in the north building, and the women of like condition in the south building.

In addition, we have tents with raised wooden floors, cottages with removable windows or walls, bungalows with outdoor porches, a completely equipped children's department with a cosy little school house, a house for the superintendent, steam laundry, boiler and engine rooms, barn and garage, greenhouse, flower gardens, and a well-kept vegetable garden. There is a tennis court, and plenty of grassy lawn space under the shade of noble old trees.

We are near enough to the city to have our provisions and other supplies delivered daily in response to telephone orders, and the family life of the small sanatorium is carried on happily enough without inconvenience. Friends of the patients can come to see them any day from 2 to 5 p. m., and those of us who are able have two days every month to go to the city.

Mail is delivered four times a day, and we get daily papers at an early hour. Thus the busy life of town is held at arm's length.

We meet our nursing problem by having capable, motherly young women, not necessarily graduate nurses, but practical nurses, placed in charge of the various departments, under the daily supervision of a head nurse, who shares with the matron certain definitely outlined responsibilities related to details of administration. These two officers confer with the superintendent whenever they desire or he requests such a conference. Two of these officers are always on the ground.

The question of household help is as difficult here as elsewhere. We have pursued a system of trying out, in all of our subordinate positions, and having found by adequate probation a skillful and loyal worker, we are fortunately able to pay her sufficient to make it an object for her to remain on our staff. By this method we have reduced the number of changes ordinarily incident to this branch of our work and thus maintained a higher standard of efficiency in the work itself, on which so much depends in the daily life of the institution.

Our program of work is planned and supervised by an experienced matron, with a genius for keeping track of the important things, both great and small. At present the capacity of the hospital is about seventy-five, including ten children, aged from 3 to 10 years. They have a happy life, and are rosy-cheeked and smiling. Everything is kept spick and span around the house and grounds all the time, for we never know beforehand when the members of the board of trustees or of the Ladies' Auxiliary may drop in to inspect the hospital. This plan has an excellent effect in keeping up the standard of neatness and order.

We have planned an important economy in replacing the kitchen range, a very large one, which requires a large outlay in coal, by the installation of two gas ranges, with which high degrees of heat may be had promptly and as promptly dispensed with.

The views and vistas of river and hill and forest here are lovely beyond anything near the metropolis. Before long we shall have hundreds and hundreds of beautiful roses in bloom. Our children enjoy walks in the woods and bring home wild flowers. There is an unusual degree of family feeling about the place, which we try to cultivate.

After 8 p. m. "all is quiet on the Potomac," and the hoarse roar of the great city is faint and far away. The Angelus bell at the convent school on the hilltop tells the hours and quarter-hours, and we hear at times the "tong, tong" of the Englewood ferry-boat. Early mornings the birds wake us, and by and by the deep-booming whistle of the day-boat announces the approach of Hendrick Hudson on his northward journey.

Then, too, we do not forget that this property is worth several dollars more than the trustees paid for it some twenty years ago. This consideration is one that deserves to be borne in mind in locating any institution, more especially one designed to do work for suffering humanity. This hospital has been offered to the Federal Government for the use of soldiers and sailors when desired.

Rehabilitation of Wounded Belgian Soldiers

Belgian soldiers discharged from the military hospitals are sent to a little town, Notre Dame de la Mer, built for their use, where they receive training intended to fit them for a return to civil life. Buildings, decorations, furnishing, planning, sewerage, etc., are all the work of the Belgians, according to an article in the *Royal Prince Albert Hospital Gazette*. The school for soldiers is known as the Port Villez Institute. The subjects taught include toy-making, baking, saddlery, painting, hairdressing, wig-making, shoe-making, civil engineering, cabinet-making, electricity, leather-dressing, lithography, printing, linotyping, carpentry, ornamental painting on glass, crockery, or enamel, sign-writing, photography, cinematography, soldering, plumbing, zinc-working, polishing and varnishing, upholstry, basket-making, woodcarving, clock-making, farming, and cattle-breeding. The quality of the work done is said to be very creditable and to reach the standards demanded by market.

SOME HINDRANCES TO THE ADOPTION OF A UNIVERSAL STANDARD IN SMALL HOSPITALS

Lack of Preparation of Training School Candidates—Need of Registration of Hospitals—Desirability of Cooperation Between Trustees and Professional Authorities

BY CHARLOTTE MANDEVILLE PERRY, Superintendent of the Malden Hospital, Malden, Mass.

After the war the designation of hospitals as large or small will not count for as much as during their development in our hundred years of peace. The West with its progressive thought may contribute new institutional types; and it is certain that present experiences in both large and small hospitals justify the hope that the efforts of the past few years will blossom into fruit on both sides of the continent. There is also ground for the belief that a universal system, educational, statistical, and economic, will be adopted. The introduction into our training schools and hospitals of systems relating to all three gives promise that in time there will be a general consensus of opinion on the subject. Cumbersome and inaccurate methods are giving way to more modern systems, many of which are excellent and show much thought and painstaking study. These are not merely labor-saving devices. They furnish a means of recording a pupil's experiences in the various departments of the hospital, as well as the educational opportunity and status which justice demands and which publicity would require. They insure oversight and fair dealing. Whether the card or the book is used is of less significance than the recording of the actual facts in a manner which makes it evident to all that the student's rights have been considered and so much required of her. The important bearing of these businesslike methods on the standards of the training school can hardly be overestimated. There is no reason why every school, large or small, should not employ them. Everyone should feel under obligation to work for the universal standard.

In regard to educational standards, as a hindrance of the first magnitude may be mentioned the lack of preparation of the candidate for the nurse training schools. Some of this is due to the early bringing up, but often to the absence in the high school curriculums of vocational courses for those who are looking forward to the nurse training schools. With the facilities which the secondary schools possess for teaching languages and science, including domestic science, it would be a saving of time and money for all if these preliminary courses could be arranged for.

Again, because of ignorance or indifference as to the value of all such aids, the smaller schools have often had to bear the brunt of doing without those facilities upon which their growth depends. If these matters were to be brought before training school authorities we might reap the special advantage which follows investigation. Inspection of schools and publicity have worked wonders. The need of these is another stumbling block in the path of realization.

Some states fail to register their hospitals as well as their nurses. In states where registration of hospitals has preceded that of the passing of nurses' registration bills, nurses' associations have been able to help along the good cause of uniform standards. The registration of schools is so bound up with state inspection that trustees or managers of institutions are not apt to recognize the significance of the one till the other has taken place. So that we may expect much from any state which appoints a training school inspector within its bounds, knowing that the awakening has come to that state when it essays to take note of conditions which prevail. Too much emphasis cannot be laid on this one point. Without hospital inspection and the publicity it entails, there cannot be much progress towards the adoption of universal standards.

One final obstacle may be found in the need of a little closer cooperation between the trustees and the professional authorities. Quite an impetus would result from their united exertions. The large hospitals have often been of great assistance to those which have no established system. To this generosity is frequently due the advance made here and there in communities where ideas are slow to overcome the antagonism which exists and where the let-alone doctrine retards the expansion which might follow an interest in what other hospitals are doing. It is specially incumbent on the trustees that they visit more in this country and abroad. They control the financial outlay and would be better able to judge of the recommendations of their superintendents if they kept in touch with recent developments. Providing the means is forthcoming, there is no reason why the small hospital should not keep pace with those of greater size, both being guided by the same standards; both having the same objects, the same work to do.

THE STANDARDIZATION OF HOSPITAL ADMINISTRATION

The Massachusetts Medical Society Section on Hospital Administration Discusses Follow-up System, Uniform Morbidity Reports, Efficiency Tests, Etc.

The Massachusetts Medical Society now has a section on hospital administration, the existence of which, according to the chairman, Dr. Homer Gage, is due largely to Dr. E. A. Codman. An interesting symposium held by this section on various phases of hospital standardization is reported in a recent number of the *Boston Medical and Surgical Journal.*

FOLLOW-UP SYSTEMS

The end-result and follow-up systems in use at various hospitals and the principles which should govern such work were discussed by Dr. Channing C. Simmons, of Collis P. Huntington Hospital, Boston. He says that, according to an investigation made for the Massachusetts General Hospital, a surprising number of the larger institutions in the country have no provision for ascertaining the end-results of the cases treated. Among those hospitals which do carry on end-result and follow-up work, methods vary greatly in efficiency. The best system in the country, in Dr. Simmons' opinion, is maintained by the Presbyterian Hospital of New York under the charge of a social worker. He quotes Carscaden as saying that for one year the results on 91.6 percent of the cases (2,278 cases) were determined. While the difficulties vary in accordance with the type of patients treated, Dr. Simmons believes it possible to trace 90 percent of a group of surgical cases at the end of from three to five years.

To obtain the best results, it is necessary to have the interest and active support, not merely the passive acquiescence, of the visiting staff. It is important also that the patient, before his discharge, should be told of the letter of inquiry he is to receive (which he may otherwise disregard, thinking it a dun), and should be impressed with the importance of responding. The proper time for report should be decided by individual consideration of each case. Three months is a good unit of time for most cases, and many can then be dismissed as recovered. Carcinoma pa-

tients, on the other hand, should be kept under observation for several years. Cases should be seen, if possible, by the surgeon who performed the operation, and, in any case, by some one in authority, interested and possessing good judgment.

Dr. Simmons believes that the work should be under the control of a librarian or custodian of the records. A trained full-time worker, not a mere stenographer or clerk, should be in charge of it. It should take the full time of one person and part time of a second to do the work of a hospital having a discharge list of from 3,000 to 4,000 a year, but only one of these need be trained.

UNIFORM HOSPITAL MORBIDITY REPORTS

Dr. E. A. Codman says that hospitals publish statistics as a sort of a boast that they are doing something, but that these statistics are so inaccurate and so diverse in plan and method of classification as to be worthless either for comparison or for more extensive compilation. If all hospitals had one uniform system of reports, no matter now simple, the added figures would form statistical and scientific data of far greater value than the elaborate reports on which hospitals now spend so much labor and money.

He suggests, as the basis of a simple and practical classification, division of all diagnoses into "malignant conditions," and "other conditions." This division would be sufficient for a small hospital treating about 100 cases a year. Hospitals which cared for 1,000 cases annually might subdivide under each heading; hospitals receiving 10,000 cases would subdivide still further. The annual report would display, under the appropriate headings, the serial numbers of the cases. He makes the following suggestions to the hospitals of Massachusetts:

1. Begin the new year with a new set of numbers, assigning these numbers consecutively to each house patient. Let each patient keep the same number, no matter how many times he returns, whether he reenters with the same or different diagnosis.

2. Let each hospital keep a chart on which the diagnoses are in two divisions, "Malignant Disease" and "Other Pathologic Conditions." At the time of the discharge of each patient, record on this chart the number of each patient under the appropriate heading.

3. Let each hospital, when it issues the annual report in 1919, publish a simple statement, giving the total sum of all the diagnoses reported under "Malignant Disease" and "Other Pathologic Conditions."

4. Let each hospital appoint a member of its staff to meet with the other appointees of all other hospitals which adopt this suggestion, this group to formulate further subdivisions of diagnoses for future reports.

While this plan, being new, requires some effort, Dr. Codman says, the total effort, labor, and expense would be far less than that expended at present without any real return.

STANDARDIZATION OF HOSPITALS

Mr. John G. Bowman, director of the Americal College of Surgeons, protests against the idea that standardization means making all hospitals alike. There is a place for individualism among hospitals; standardization merely insists on certain fundamental principles. For instance, a beautiful and expensively constructed institution in which there are no laboratory, no interns, or house physicians, and no case records, cannot be said to attain a satisfactory standard. Among the points requiring consideration in standardization are: relative efficiency, as shown by mortality rates, for instance; withdrawal of hospital privileges from fee-splitting physicians; accuracy in diagnosis; keeping of adequate case records.

EFFICIENCY TESTS APPLIED TO THE STAFF

Dr. Joseph A. Capps, chief of the medical staff of Cook County Hospital, describes an experiment in efficiency which has been carried out for the past three years with the professional staff of Cook County Hospital.

The unit of service is fifty beds, cared for by a team consisting of one senior and one associate attending physician and a senior and a junior intern. The markings are made by an efficiency committee on the entire team on service. The efficiency committee, provided with the following items of information, gives one or two evenings each month to the computing of the marks: post-mortem records for the month; bedside diagnosis of each post-mortem case; records of five histories from each service, selected at random; reports of social or welfare workers with reference to "satisfaction of patients"; letters from department chiefs regarding excellence or neglect on the part of the staff; publications and papers read by members of any unit before medical societies; a record of the hours spent at the hospital by attending men; and a record of attendance at the regular monthly staff meetings.

Markings are made from this material. Credit is given for each hour in attendance in excess of the legal requirement of eighteen hours a month; for excellence of histories as a whole; for promptness in making and completing records; for adequate and complete description of operation or of reduction of fractures; for success in obtaining post-mortems; for diagnosis checked by post-mortem; for publications and articles of merit, and for special work by interns approved by the committee; for cleanliness of patients, floors, and windows, and for the presence on the service unit of prescribed articles of equipment; and for satisfaction of patients. Deductions are made for failure to attend staff meeting; for each history sheet omitted; for inferiority of histories; for delay in making and completing records; for services having during the month five or more deaths and no post-mortems; for diagnosis checked by post-mortem; for failure to enter clinical diagnosis and fill in diagnostic sheet previous to discharge or death; for histories returned by librarian to interns for correction. Each month the markings of each service during the preceding month are posted in the main corridor.

The system is necessarily defective, inasmuch as it seems impossible to pass judgment on such important qualities as therapeutic skill and surgical judgment. Yet it has served the purpose of developing and maintaining a higher standard of efficiency in the routine work of the hospital, and has had much influence in promoting an interest on the part of the professional staff, not merely in the individual's own ward, but in the hospital as a whole.

Thirty free clinics for the treatment of nervous and mental disorders have been established under the direction of the New York State Hospital Commission in a state-wide campaign to prevent insanity. Approximately 40,000 insane persons are under treatment in institutions in New York state alone, and the care of such persons has become a serious problem for the state. It is felt that the ratio of hospital cases to population will be materially reduced by the clinic system, which will enable all persons threatened by mental disease to consult with a specialist and receive diagnosis, advice and treatment without cost.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
728 Seventeenth Street, N. W., Washington, D. C.
WILLIAM H. WALSH, M. D., Secretary.

War Service—Bureau of Registration—Meeting Plans for 1918—Personal Word to Those Interested in Hospital Work

COMMITTEE ON WAR SERVICE

As may have been noted by the Bulletin for December, the War Service Committee is very actively engaged on work which has been of material help to the Government and of untold value to all hospitals of this country. The committee welcomes suggestions from interested persons or institutions, whether represented on our membership roll or not. As the war continues, the responsibilities of this committee are bound to increase, and the success or failure of its efforts will depend in part on the support and cooperation of all civil hospitals.

Members of this committee are constantly in Washington, thereby preserving intimate touch with the various government officials and departments. The postcard questionnaire on the intern question has brought an abundance of information on the subject, and, as soon as it can be summarized, certain deductions and conclusions will be published in these columns.

LIFE MEMBERSHIP FUNDS

At the last meeting of the trustees the secretary and treasurer were authorized to invest the life membership funds in Liberty Bonds in case a future issue should be floated. It may be remembered that only the interest of the funds is available for current expenses. Attention should again be invited to the intentions of the trustees to recommend an increase in the life membership dues from $50 to $100 for active, and from $25 to $50 for associate. Those who wish to take advantage of the present rate must do so this year.

BUREAU OF REGISTRATION

A number of hospital positions were filled during the last two months through the agency of this bureau, and at the present time many desirable candidates are listed as available. There is no similar bureau in America to which hospitals may go for reliable information regarding suitable candidates for executive positions, and, if such institutions will make known their wants, every effort will be made by this office to fill them.

MEETING PLANS FOR 1918

At the recent meeting of the trustees it was definitely decided to hold the twenty-sixth annual convention in Atlantic City during the month of September, 1918 This decision was reached after every possible effort was expended in an endeavor to find suitable accommodations in Washington and Baltimore. Little need be said regarding the suitability of Atlantic City for a convention, but special efforts will be made this year to make the 1918 convention one of the most memorable in the history of the association. The Committee on Arrangements will soon be announced and will include the names of many hospital executives prominent in the state of New Jersey. Details of the arrangements will appear from time to time in these columns.

INCORPORATION

The Legislation Committee, of which Mr. Howell Wright is chairman, is now working on a bill for the incorporation of the association. It is expected that the committee work will have been completed by January 26, at which time it will be submitted to the trustees for final approval. The incorporation of the American Hospital Association will make the next step in its progress, and will place the organization on a permanent basis.

PROCEEDINGS FOR 1917

The work of editing the proceedings for 1917 is progressing rapidly, and, barring unforeseen events, the completed volumes should be in the mail by March 1, 1918. Members are urged to advise this office of changes of address as soon as possible, as postage is very high, and the book cannot be forwarded without new postage.

HEADQUARTERS

The permanent headquarters of the association have now been established, and members of the association are cordially invited to visit our offices while in the city Members may have their mail addressed here, and are at liberty to utilize all the office facilities available.

MEMBERSHIP—A PERSONAL WORD

Hospitals and their executives need the services of the American Hospital Association and its War Service Committee much more urgently during the present world war than during peace times. There are many weighty problems intimately affecting you and your hospitals that will be decided largely on the advice of the representatives of this association; and, if you have any desire to assist in shaping the policy that will be advocated, you should become a member of the association and thereby add your advice, counsel, and aid to those who are giving so much of their time for your interest. It is a patriotic duty to help the Government at this time, and this association is bending every effort in that direction while it is using every possible influence to preserve the integrity and increase the usefulness of the civil hospital.

This association and its various committees will help all, regardless of affiliation with its organization, but we submit that, without the aid of *your* cooperation, our strength is thereby decreased. The American Hospital Association is giving service to all hospitals in America, and it would appreciate some knowledgment of its efforts from those who are not members. A postcard to the secretary will bring you full particulars and the necessary application blank.

Frederick Lawrence Upjohn, president of the Sydney Ross Company, of New York City, who died December 3, left $130,000 to New York Charities, including $15,000 to the New York Association for Improving the Condition of the Poor, and $10,000 each to Long Island College Hospital, New York Society for the Benefit of Ruptured and Crippled, New York Hospital, American Female Guardian Society and Home for the Friendless, and Stony Wold Sanatorium.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

The Educational Problem of the Small Hospital*

BY CLARIBEL WHEELER, R. N., Mt. Sinai Hospital, Cleveland, O.

The education of the student nurse in the small hospital school of nursing is one of the most serious problems confronting nurse educators today. The harassed principals of these schools are crying out to be relieved of a burden which is fast becoming too heavy to bear. How long are we to countenance the present system, which is so taxing the health of our student nurses? Is there no way in which pupils from both large and small hospitals may receive their theoretical training together, and before they take their practical work?

Before discussing the needs of the small hospital school I would like to bring to your attention a few facts concerning small hospitals conducting nurse training schools. In 1911, Miss Nutting reported 1,048 hospitals in the United States (not including hospitals for the treatment of nervous and mental diseases) which were maintaining schools of nursing. Of the 1,048 reported, 181 were hospitals of 50 to 60 beds, 355 were hospitals of less than 50 beds, 48 of the last group being hospitals of less than 20 beds. This shows 50 percent of our schools of nursing connected with hospitals of 60 beds and less. The small hospital is not confined to any particular locality, but is found in all parts of the United States. Registration laws have, of course, as shown in Miss Wheeler's report of 1916, diminished the number of small hospitals conducting training schools.

The small hospital is a factor which cannot be ignored. It meets a definite need in the community, and has without question come to stay. Its patients must receive nursing care. It is impossible, as well as inadvisable, to send all sick people to large hospitals. The large city institutions are already overcrowded; besides, the small hospital offers many advantages to the patient which the large hospital cannot give.

The pupil trained in the small hospital receives closer supervision and is more likely to be particular about minor details and to be much more human than the pupil from the large hospital.

As the small hospital can contribute some things which the large one cannot give, is it not advisable that there be cooperation between the city and the country, between the large hospital and the small hospital, so that the same professional education may be given to pupils from both?

Let us look for a moment at the school connected with a small hospital. The sole purpose in establishing such a school is to provide nursing care for the patients at the least possible expense to ths hospital. Some of these hospitals are fortunate in having a board of trustees or a training school committee who are interested in the school as a school, and are willing to provide instructors and facilities for proper teaching of pupil nurses. Often these schools are not so fortunate and there is little provision for the theoretical education of the nurse. The superintendent of the hospital is often principal of the school, the burden of much of the teaching falling upon her, with perhaps the help of an assistant, who usually teaches the practical work. She is often dependent upon her kind-hearted medical staff for lectures and class work. This is unsatisfactory, not because of any unwillingness on the part of these men who give their services, but on account of the uncertainty as to their time. In many of these schools there is a deplorable lack of class rooms, demonstration rooms, and laboratories, and frequently no space for providing them.

It is very difficult at the present time to secure trained instructors for the large schools, to say nothing of procuring them for the smaller ones. If we are to standardize our schools, is it not highly important that only women especially trained should be considered qualified to teach student nurses?

Affiliation has been held out as a means of settling some of these difficulties. The advantages of affiliation cannot be overestimated. The affiliation of a small country school with a large city school is an excellent thing for the student nurse. It not only rounds out her practical experience as nothing else can do; it broadens her viewpoint as well. I am not so sure, however, that it would not be just as advantageous for the student from the large school to have a period of training in a small hospital. Is it not true that the greatest advantage in affiliation is the opportunity it provides for practical experience? Does it in many instances give great opportunity for theoretical work? Is it not a fact that the pupil is often seriously handicapped by having to leave her home school in the midst of her class work to go to the affiliated school for special training? This is especially true when the two schools are not in the same city, as is often the case. We cannot truly say, therefore, that affiliation does solve the educational problem for the small schools.

Let us consider the possibility of a central school. I think the central school has been in our minds for a long time, but we have thought of it in a vague sort of way as something very far in the future. I see it now as something near at hand. We have thought of it usually as being connected with a hospital. I see it as entirely separate from any hospital. The hospital has always been first in our vision. May I ask, does the young man entering medical college think first of the hospital when he is to receive his internship? No, his first consideration is of the best medical school that he can possibly find.

Let us then put aside the thought of the hospital, and consider a central school for nurse students. If we are to be a profession, then our schools should take their place with other professional schools, i. e., connected with universities throughout the country. The dentists, pharmacists, engineers, and other professions are there. Are we asking too much to be placed there also?

The nursing profession has grown out of a great human, social, and economic need. It has not been created by either hospital authorities or the medical profession. It seems to me that it has reached the period in its growth when it is able to stand upon its own feet.

Central university schools will undoubtedly solve this very difficult problem of theoretical training for both large

*Read before the joint meeting of the National Associations of Nurses, Philadelphia, 1917; presented here by courtesy of the *American Journal of Nursing*.

and small hospitals. Some of the advantages of such a system are as follows:

1. It would provide an uniform system of education for all schools of nursing.

2. It would raise the educational standard, making the minimum requirements a high school diploma.

3. It would appeal to the kind of young women who are qualified to become professional nurses, as it will place the nursing profession on a plane with other professions. It will also appeal to them more than our present system, because long hours of study will not be combined with long hours of physical work. This is one of the greatest objections that intelligent young women have to our schools, and one of the best reasons why more do not enter the profession.

4. It would provide teaching facilities, such as class rooms, laboratories, libraries, etc., which could not be obtained in any other way.

5. The qualified professional instructor would take the place of the nonprofessional instructor of our present system.

6. It would make hospitals laboratories where the student nurse would receive her practical training. This could be taken in small hospitals and in special hospitals as well as in large hospitals.

7. State registration would not be so difficult under this system.

8. Central university schools would be able not only to give the preparatory theoretical course, but could give post-graduate work, similar to that now given at Teachers' College, for students wishing to specialize in certain branches of the work.

It would be presumptuous to say that in establishing central schools of nursing there would not be many difficulties to meet, many obstacles to overcome, many problems to solve.

One of the first questions to be raised would be, "How are we to nurse our patients in the hospitals?" First, by employing more graduate nurses, as head nurses, private floor nurses, night nurses, etc. Second, by the use of the ward helper, trained attendant, or whatever she is to be called, to perform some of the work heretofore done by student nurses. Florence Nightingale recognized the need for two classes of hospital workers. This woman is not to be confused with the ward-maid type, but should be a woman of much higher intelligence, faithful, loyal, and possessed with a desire for caring for the sick, yet not having the education and other qualifications necessary for the professional nurse. She may be found in many schools today. I have seen her struggling bravely to master her theoretical work, which was entirely over her head, yet her practical work was above criticism. Let me emphasize this fact: she is already in many of our schools. Let us train her and give her a place, but why insist that she become a trained professional nurse? The system which has placed refined, educated girls in the same mold with the grammar school girl or the one-year high school girl, and has expected them to come out the same product, has miserably failed. Each has a place, one quite as honorable as the other, but it is unreasonable to expect the same process of education to be used for both with satisfactory results.

Several schools of nursing are already connected with universities, and it is doubtful if there would be great difficulty in securing the cooperation of the university. If this should happen, central schools might be established independently providing the proper people could be reached and a sufficient endowment raised.

A plan for a central school is to be presented in another paper, consequently I shall not attempt to discuss it here.

My purpose has been to emphasize the need for central university schools with hospitals used as laboratories for practical work and public health centers for field work; also to emphasize the fact that the same theoretical training must be given to all student nurses who are to become professional nurses. This is essential if we desire a uniform standard, and if we wish to be classed with other professions. I realize that this change cannot be brought about at once, that the doing of it is fraught with many difficulties, but I do seriously believe that the university is the only logical place for central schools; consequently, if it is right, it is worth striving to attain.

Health Conservation in the Training School

Any mechanic will tell you that if you run your machinery at top speed and do not oil it as often as it should be oiled, sooner or later it will break down. When this happens, the machinery stops and time, labor, and money are lost.

We don't believe that a nurse is a piece of machinery, although unfortunately there are still heads of hospitals and training schools who treat her as though she were one. A few years ago the supervisor of the surgical department of one of our large open-door hospitals, whose records show about six thousand cases in that department in each year, noticed that during the hot weather or during an especially busy time it became quite a usual occurrence for a nurse to faint, or to come so nearly fainting that she had to be replaced, even while an operation was actually going on.

Added to this, the supervisor found on going over her records that there were too many capable girls who had to give up their surgical training because they lost weight and vitality so rapidly after being in the service for even a short time. The one common factor in all the cases of fainting was that the fainting nurses had eaten no breakfast. Some of the girls, of course, were in the habit of getting out of bed at the last minute and had no time to eat; others were of the type who could not eat a breakfast, and still others had reached the point where institutional food did not appeal to them and they did not want it. The resulting investigations worked out this way:

The superintendent of the training school and the operating room supervisor put their heads together, and, after some delay, threats, and persuasion on both sides, the superintendent of the hospital gave a standing order to serve the nurses on duty in the operating rooms with some liquid refreshment at 10 o'clock in the morning and at 3 each afternoon, and for the night force at 9 p. m. As soon as the extra mealtime was put in practice, the fainting stopped, the whole atmosphere became more cheery, and the work accomplished more smoothly and easily done.

Now, the strange part of this story is that the same idea has been carried out in several hospitals by people who never knew of others doing it, which all goes to show that all of our problems have much the same solution.

The Mercyville Sanitarium is a new instititution at Aurora, Ill., built and equipped by the Sisters of Mercy for the treatment and care of patients suffering from mental and nervous diseases. Dr. H. J. Gahagan, former superintendent of the Elgin State Hospital, Elgin, Ill., and Dr. F. N. Maginnis, of Aurora, constitute the medical staff.

DISPENSARY AND OUT-PATIENT WORK

Conducted by MICHAEL M. DAVIS, Jr.,
Director of the Boston Dispensary.

Please address items of news and inquiries regarding Dispensary and Out-Patient Work to the editor of this department, 25 Bennett street, Boston, Mass.

The Value of a Social Service Department to a Tuberculosis Sanatorium*

BY HARRIET FULMER, R. N., Supervisor of Public Health Division, Cook County Bureau of Social Service.

Perhaps it is too early in our experience of installing a social service department in the Cook County tuberculosis sanatorium at Oak Forest to presume to tell about the discoveries made which have been of value both to the discharged patients and those still remaining in the institution, but even so this is an opportunity to draw attention not only to its value, but also to the necessity for this connecting link from the outside.

Only a few years ago we could hardly form a specific definition of "social service," much less apply it to the thousands of cases in hospital beds anywhere in America. It hardly seemed possible that the sick man in the institution had any relation whatever to his home, his family, or his occupation. Then someone out of a clear sky said that perhaps if we knew what made this person ill, something about his family, the condition of his home, his cause for worry, etc., we might help him to recover more quickly, and incidentally perhaps prevent the necessity of his again returning to a hospital institution.

In the last seven or eight years, things have moved forward very rapidly in the care of the ill, and one important institution that has come to stay is the social service department of the hospital. At this present time, from one end of the country to the other, large and small hospitals alike are as rapidly as possible adding social service departments with a follow-up system, so that in the not far-distant future every general hospital ward will have an invisible line running from the hospital bed miles away to the patient's home, and this connection is the social service nurse. If such a system has been found of service in a general hospital, how much more value it ought to have in the tuberculosis sanatorium toward the more speedy recovery of the patient or the peace and happiness of the ones who are past recovery? I say that it ought to be of more value because the tuberculosis patient must have freedom from worry, for the very nature of his disease makes him restless and dissatisfied, and, if we are to keep him in the institution, we must institute measure to bring the above conditions about. Whatever agency we fall upon, there is no gainsaying that the social service department will fill the bill.

A little over a year ago the board of county commissioners of Cook County, through the social service bureau and the vision of its president, Peter Reinberg, appropriated sufficient funds to institute a rural nursing service as a department of the bureau of social service, this division to be used for the people living outside the city. There are now four nurses in this service; one of their duties is to seek out the cases of tuberculosis and advise county sanatorium care. The Cook County tuberculosis sanatorium was built by the county board before our present Illinois tuberculosis act came into operation. The new act compels tuberculosis sanatoriums to be erected somewhere away from the county institutions. Ours is situated on the grounds of the County Poor Farm, and, though it is remote, there is still the prejudice existing in the minds of the people that they are being sent to the poor house. With this condition existing, it is not an easy task to get the rural sections to use the institution, although since the social service nurses have been in the field, a change is gradually taking place in this attitude. In the near future there will be, no doubt, erected a tuberculosis sanatorium under the new law.

A second and important part of the work of this social service department is a weekly visit to all patients living outside of Chicago who are in the sanatorium. The nurses make rounds to a dozen or more of these cases, and then, if possible, a message is carried to the home, and the following week one is brought back to the patient. The history and home condition of each patient are reported to the heads of the institution when necessary. When there is need, also, the nurses on duty in the wards are asked to request the social service nurse to make a special visit to the home of the patient to secure such information as shall be of advantage to his recovery.

I am not going to recite in detail the family history or home conditions of these hundred cases, but I am asking you to make a mental picture of a hundred homes from which these patients came. Make a mental picture of a line running from each individual in the institution to his home. These are the general facts disclosed.

In these families, roughly estimating, there are 492 contact cases, which upon examination were found to produce 94 active cases, some glandular and some lung. Forty of these patients were fathers; 40 were mothers; 60 were the bread-winners; all were under the age of 40 years. Thirty-four children left school to work on account of the illness of the bread-winners. Ten of these people died, leaving their children to the care of strangers. In 58 of these homes there was great poverty, insufficient food, insanitary housing, largely brought about by insufficient wage. Twenty-eight of these people had worked at an occupation which produced their present low physical resistance. To each of these homes the nurses have made from one to six visits. They have been the bearers of messages to and from the patient to his family. They have been of value in giving post-sanatorium supervision; in helping prepare the patient's home for his proper reception; in securing future occupation, or a change from previous one; in soliciting and securing the cooperation of the patient's family in inducing him to remain in the sanatorium; by keeping home worries away by frequent letters.

One little girl whose father was a patient was induced to write her father a post card every day. The successful care of this case came about through the interest of this man's little 10-year-old girl.

A social service department in a tuberculosis sanatorium is one more agency to help a patient on to recovery and to save the sanatorium many dollars in the speedier adjustment of the family to normal life.

You may think that all these conditions could be brought about as easily for less money by correspondence,

*A Study of the Homes and Families of One Hundred Tuberculosis Patients; read at the Mississippi Valley Conference on Tuberculosis, Minneapolis.

but when you remember the effect of a personal visit to the home in the spirit of a "good neighbor," plus the skill of a trained worker, the comparison is odious. I remember meeting not long ago in one of our corridors at Oak Forest a boy of 14 years who had been quite ill. He was progressing finely, and another month would see him permanently well. He accosted me thus:

"I must go home, for I worry all day about my mudder. My fadder is not good to her, and I have not seen her in a long time."

I said to Anton: "I am going to see your mother tomorrow and tell her that you are getting well and will soon be home, and then I will send you a letter to tell you how I find your mother."

The child was satisfied, and because of this procedure remained contented in the institution until his final discharge. He is now earning a fair wage. With all the good will in the world, no institutional nurse in a tuberculosis sanatorium of 675 beds could possibly take the time to do this service for this little boy. This is an instance which represents the really human side of the work.

In another case the records of the sanatorium had nothing about the dark, insanitary basement in which Mr. B.'s family were living, but the nurse in her follow-up on her rounds discovered that this family were living in a tuberculosis breeding-place. After several interviews and many days of hard work the family were moved to better quarters and the landlord of the basement was notified by the village president to put these premises in a sanitary condition or otherwise not to rent the place again.

Some of the handicaps of the nurses in our division trying to do this work are the following: The territory covered by the homes in which these hundred patients live is scattered and large, the area covered being about 600 square miles; the population is 250,000, and the transportation is difficult.

We feel that every home should be seen not less than once a month. The present force can arrange only a visit once in two months for, in addition to these hundred families in the Oak Forest institution, there are 530 now under the jurisdiction of these field nurses that need attention. There is no doubt that the sanatorium at Oak Forest gives as good medical and nursing care and has as good food and surroundings as any institution of like character in this country, and yet the administration feels that their work can be only half done without an adequate, thorough follow-up system, and that we have made a great step in advance in instituting one at Oak Forest.

Today John Smith enters the sanatorium, brought by a kind friend or a township supervisor. In a day or two his home will be visited by the social service nurse. Here she finds a wife and four children living in close quarters. She persuades them to come to the clinic for examination. Two of these contacts are found tuberculous and are admitted to the sanatorium with the father. The mother must now be the wage-earner. Work must be secured for her. This family when found were surely going down very rapidly. Today the man is heartened once more and they are again on the road to rehabilitation. Without the follow-up work surely a part at least of the sanatorium service would be lost.

We promised little Elsa, a child of 14 years, whom we found in the village school a well-advanced case of tuberculosis, that if she would go to Oak Forest she would have a visit from someone every day from her home. Elsa had been a source of infection to every playmate in the village. Her mother and four maternal aunts had died of tuberculosis. She was living with her grandfather, the only person left to care for her. We prodded this old man to go to see Elsa every day. She was in the sanatorium for five months, kept clean and comfortable as long as she lived.

The field nurse and the social service nurse, as one and the same person, rounding up cases in the districts and making visits to the homes of the sanatorium cases is the tie that binds the sanatorium to the community. The social service nurse is working all her waking hours to correct false impressions of the institution.

Tuberculosis patients are not easy to please, and a few may be dissatisfied. It is the province of the social service nurse, by cooperation, by influence, and by personal argument, to persuade the people to visit the institution as often as possible. When this is done their fears are disabused and indifference turns to appreciation. Hardly a day passes that this fact is not brought out.

Summing up, then, we are prepared to confirm our original plea that a social service department with its follow-up work to each home is of infinite importance in the conduct of a tuberculosis sanatorium: (1) to the patient because of the close personal relationship already established in his home by the nurse; (2) to the family by advising other members to be examined and encouraging them in carrying out a routine of personal hygiene; (3) to the community by removing a source of infection and by spreading knowledge of general hygiene; (4) to the institution by establishing a better understanding of the service rendered by such an institution and making for a more harmonious administration.

Finally, I am now making a plea that we use all influence possible to institute social service nurses in our county sanatoriums everywhere, helping in some measure to make more bearable the life of those afflicted with the "Great White Plague."

Standards of Out-Patient Service as Interpreted at the Peter Bent Brigham Hospital, Boston

In the current annual report of the medical department of the Peter Bent Brigham Hospital, by its physician-in-chief, Dr. Henry A. Christian, appears a section on the out-patient department, which will be of great interest to all hospital superintendents. Dr. Christian outlines clearly certain dispensary standards, and places definitely before us the ways in which they must be attained. The facts concerning his out-patient department quoted by Dr. Christian indicate certain kinds of information which every physician and superintendent should collect about the clinics in which he is interested. Only through facts can the actual efficiency of a clinic be tested.

"In the wards the number of patients treated is largely limited by the number of beds and the types of patients admitted. In the ambulatory out-door department such limitation does not exist. A faulty out-door department service is likely to come as the result of admitting more patients than can be attended to.

"Omitting Sundays and holidays, when the clinic was closed, in September, 1916, there were twenty-five working days each of eight hours a day, which gives 200 hours for each man's work. The work [in the out-patient department of the Peter Bent Brigham Hospital] is divided so that each day one man takes charge of old cases and one man takes charge of new cases. In this way there was available in September for old cases 200 hours and for new cases 200 hours. During September, 1916, there were 1,396 old cases seen in 200 hours, or 6.98 cases per hour, or 8.5 minutes for each old patient as an average. During the same period there were 500 new cases, or 2.5 patients

per hour, or an average of 24 minutes for each patient seen by the doctor. As the number attending the clinic varies greatly from day to day, there were necessarily many periods due to overcrowding in which old patients received less than an average of 8.5 minutes of attention and new patients less than 24 minutes of attention. It is to be borne in mind that these are average figures, and as some patients require less study and less attention, whether coming as old or new cases, than do others, by reducing the time given to such cases more time becomes available for the cases requiring more detailed study.

Now, in accordance with the statement of a recent annual report of the Massachusetts General Hospital that no physician should see more than six new or twenty old cases within three hours, each new case should average one-half hour's time of the physician, and each old case a little less than ten minutes. Assuming that each new case should have thirty minutes of time, and these figures have been quite carefully worked out at the Massachusetts General Hospital on the basis of a long experience, during the month of September we should have taken care of 400 new cases instead of the actual number, 509. On the same basis, if old patients should have ten minutes per patient, we should have taken care of 1,200 old patients instead of 1,396, the actual number that were cared for.

"We may do nothing in regard to the out-door department and trust to its size being limited automatically by reason of the poor work done in the short time available for each patient, and so cause a limitation of the number coming by establishing the reputation of doing poor work. This, I take it, all will agree is an undesirable policy. Two other possibilities remain: one is to increase the number of physicians working in the out-door department. This may be done by the appointment of assistant visiting physicians on salary. This plan involves the expenditure of money, and whether or not we are able to do this depends upon the financial condition of the hospital. If the hospital can afford it, I would recommend that such provision be made. In this connection I think it is fair to state that, judging by the experience in other hospitals, it is becoming very difficult to get adequately trained men of a high standard to do out-patient work consecutively on an unpaid basis, because the return from such work in the way of increased medical knowledge and power is not proportionate to the time spent.

"Another method to meet the need of additional men in the out-door department would be to invite graduate house officers to stay on in residence beyond their present period of sixteen months' service for additional out-door department service. As conditions are at present, our graduates have numerous offers of attractive posts. To offset this we would have to make our additional service attractive. Unless we do so I do not think our men would care to remain four months longer. . . .

"The second possibility is to limit the size of the out-door department clinic. At first glance this seems a radical step. On consideration, however, it is evident that sooner or later such a step is inevitable. To employ one or two additional physicians on duty at a time as outlined above will bring a better service to our out-door department as far as present numbers are concerned, and will enable us to take care of a somewhat larger number than we are at present handling. To increase our working staff in the out--door department much if any, beyond the two additional physicians, even if the money is available, will not be very feasible because, with a larger number of physicians working and a larger number of patients handled, the physical plant which we have will be inadequate for the service, and the next step necessarily will be either enlarging the building or limiting the clinic. In my judgment to limit the clinic at the present time to such numbers as we can adequately handle will not be a bad policy. In fact, it will be a forward step in the administration of out-patient departments, inasmuch as it will be placing a standard on out-door department work which says that so many patients can be handled with the physical equipment of the institution and the available number of physicians of high quality, and rather than to have more patients than we can take care of satisfactorily, we will limit the number, and in their care maintain a certain standard of work rather than increase the number and lower the standard of work.

"It seems to me that such an even distribution of patients could be maintained easily in our clinic if someone were on duty in the admitting office of the out-door department who could make appointments with new cases, so that after three or four cases had been admitted the next new patient would be told that perhaps if they came now they would have to wait a considerable time to see the doctor, but that if they would return at, let us say, 2 p. m. today or on the following day, as the case might be, they could be seen quite promptly by the physician. In this way time could be scheduled for the patient, allowing each new patient thirty minutes of time. If the patient paid his admission fee when the appointment was made, the chances are that most of them would come back for the appointed time.

"Obviously, in such a plan discretion has got to be used for several reasons: some patients have left their work and so lose pay by not being seen on that day; other patients have traveled a long distance, and it is inconvenient to repeat the journey. Such patients should be admitted at once and handled as quickly as possible. Finally, some cases are obviously acutely ill and need immediate attention. Those should be treated as emergencies and short-circuited ahead of cases already admitted. For a proper understanding of the patient in this plan of admission one who has medical knowledge will be required to do the work.

"If this plan is adopted for new patients, a much better service, I am sure, would be rendered to each new case. In regard to old patients the difficulties are slighter, and a considerable regulation as to their time of return can be made by the physician when he sees the patients by asking them to return on a given day at a given hour, selecting days when it is not likely that the clinic will be overcrowded, since experience has shown that certain days bring the largest number of patients; or, if it seems necessary, a book of appointments can be kept for old patients. By such an appointment scheme a certain number of patients would be unable to keep their appointments and such vacancies would serve to take care of emergency patients, patients from a distance, and patients who for reason of occupation would find it very difficult to come a second time. Many of our patients live near by, and I feel sure that most of them would rather go home and come back in three or four hours, or on another day, in preference to remaining three or four hours in the clinic waiting to see the doctor. I would strongly advise the adoption of some such plan as this to provide better service for the clinic as it now stands, even if additions can be made to the staff working in the medical out-door department."

Arrangements are being made to rebuild the recently burned administration building of the Bon Air Sanatorium, at Bells Camp, near Bradford, Pa.

THE WAR: ITS HOSPITAL, MEDICAL AND NURSING ASPECTS

HINTS FOR WAR WORKERS

What to Take to Paris—Suggestions for Avoiding Unnecessary Inconvenience and Discomfort

"If you are coming over to take your part in the big work over here," writes Margaret L. Farrand in a letter to the American Fund for French Wounded, "there is one rule which you will do well to follow: Do not believe everything you are told. If you do, you are likely to find yourself wearing two pairs of woolen stockings, because Mrs. Jenks always had chilblains in Paris before the war, and what must it be like now. Or you will give all your matches to the steward on the steamer because someone told you that you could not bring them in. Or you will arrive, as a dozen girls did the other day, equipped with high rubber boots, which are just as necessary in Paris as they are in New York or Boston or Chicago.

"But there are a great many things which it is well to consider beforehand, and a number of us who have just landed have been pooling our experiences and our 'I am glad I did that' and 'I wish I had known this,' in the hope that they may be of help to you who are about to sail.

"Photographs first. They must be small, unmounted, showing just the head, and must be taken without hats (that is, a new regulation on which the Paris photographers are waxing fat). You will need four when you make application for your passport—two for the French consulate, where your passport is viséed, and four for your *permis de sejour* in Paris. If you are going outside the city at all, you will need from two to two dozen more. If you are going to drive a car, you will need two when you get your license. A dozen is the minimum and the maximum is infinity.

"Papers. Keep everything that is given to you—passport, birth certificate, application for passport, etc.—and take them with you wherever you go. You have to show your passport when you cable, for example.

"Money. There is a new law which prevents the sending of American gold out of the country. Consequently the rate of exchange is low. You will probably find traveler's checks or a letter of credit the most satisfactory form of banking.

"Baggage is a tremendous problem, even though you do not have to carry your own trunks, as some kind friends in America will tell you. You will probably find it better to check as much baggage as possible from your boat to Paris. You will have to pay excess, of course. The allowance is 30 kilos on a second-class ticket, but, if you can reduce your hand luggage to things that you can carry yourself, you are much more likely to have all your possessions when you reach your Paris hotel.

"If you are going to spend a night in Bordeaux, try to wire from the boat for a room, and wire from Bordeaux to Paris for a room in some hotel for your first night. Small hotels and pensions are crowded. You can find accommodations, but you may have to hunt for weeks before you find exactly what you want. Collect all the addresses you can before you come over.

"Food. You can bring in a few pounds of sugar if you like, and, as getting a sugar card is something of a task, it may be as well to bring a box if you want to have tea in your room. You will find all the sugar you need for your three meals on your hotel table. There is plenty of chocolate here, and there is candy, but it is more expensive than at home. Tobacco is dutiable, except a small amount for personal use or for the United States army.

"Don't let your friends load you with packages to mail to people in France. The mailing system is extremely complex, and the chances of a package's arriving are about as good if it is mailed at home.

"And now to attack the important feminine problem of dress. Everyone who has come over this year seems to have prepared for a winter like the last, which was one of the worst Paris has ever known. There is a furnace in the Alcazar (the Paris headquarters of the American Fund for French Wounded), and there are also stoves in several of the rooms. You won't be any too warm, but neither will you have to wear a fur coat all day long. Many of the small hotels are heated, and so are some of the pensions. For a nominal sum you can have hot water brought to your room every day. Of course, all this applies to Paris; if you are going outside, you will find conditions much harder. All motor drivers of the A. F. F. W. are obliged to wear uniforms, and so are the workers who go outside of Paris. The packers and office workers need caps and large blue aprons, which can be purchased here, but they may, if they like, wear the uniforms. You can get your uniform in Paris for about $50. With it you will need high-collared shirts of flannel or silk, or anything you please. You can, and generally do, wear your uniform everywhere, except to bed. If you do not have a uniform, a suit will answer most purposes, with a simple warm dress or two if you want to change in the evenings. Bring plenty of thick undergarments. Woolens are not easy to get here, and you will want them and woolen stockings, too. Laundry is well done, but fairly expensive. If you plan to do any of your own washing, bring laundry soap with you. Bring an umbrella, and don't put it in your trunk; the chances are ninety-nine to a hundred that it will rain while you are in Bordeaux.

"Finally, be prepared to find everything quite different from what you expected, and be ready to adapt yourself to conditions of any and every kind."

* * * *

TUBERCULOSIS IN FRANCE

Importance of the Problem to the Health of the American Army—Work of the American Red Cross

One of the big problems receiving the attention of the American Red Cross in France is to free the country as far as possible from tuberculosis, with which, it is estimated, some 500,000 persons are afflicted. Scientific efforts to control the spread of the malady are not only of supreme concern to France herself, but also of great importance in making France healthful for the American troops over there.

The Red Cross is cooperating with the Rockefeller Foundation in financing a commission for the prevention of tuberculosis, the Rockefeller Foundation paying administrative expenses. The commission sent to France is headed by Dr. Livingston Farrand, president of the Uni-

versity of Colorado and formerly president of the National Association for the Study and Prevention of Tuberculosis.

The work is beginning on a modest scale, the service to be extended as opportunity may offer and results justify. All work is being done under the general administration of the French Government and by French people. The administration of the work is centered in Paris, and intensive educational work by means of four mobile educational units is being conducted from this headquarters. These educational units are establishing local antituberculosis dispensaries.

Four training centers for educating workers to man these dispensaries are being established and maintained in Paris, Bordeaux, Lyons, and Marseilles, respectively. It is expected that ultimately France will have between 300 and 400 antituberculosis dispensaries, and upon them will fall the burden of controlling tuberculosis in France. They will be maintained largely by local funds.

In connection with each of the dispensaries provided, three factors will be needed which it is proposed the American Red Cross shall provide, except in so far as they may be provided by French public authorities, organizations, or citizens.

The first of these is special home relief for destitute families in which there is a case of tuberculosis, this relief being of such nature and amount as the sanitary conditions require. Second is a hospital to which moderate and advanced cases, whose home conditions are such that they cannot remain at home without being a menace to their families, may be sent. It is not expected that these patients will recover, though they may improve, and the primary object of the hospital is not the cure of the patient, but the safeguarding of the health of other members of the family by removing the tuberculous members. The third is special provision for the care of children who have already been intimately exposed to a serious case of tuberculosis. This provision may either be institutional, with a special "regime" and special feeding in the nature of preventorium, or it may be the establishment of a special "regime" with medical and nursing supervision and special food in the homes of the children.

In addition, the Red Cross Commission in France, on the invitation of the sanitary service of the French Army, is completing the unfinished building of the tuberculosis sanatorium at Bligny, some twenty miles from Paris. This admirable institution, which is in many respects a model, was occupying about one-half of its proposed plant when the war broke out. A large building, intended to accommodate two hundred patients, was about 80 percent completed. The walls, floors, and roof were completed, doors and windows in place, but heating, lighting, and plumbing were lacking. All work was discontinued on the opening day of the war, and everything has remained to the present day just as it was left. It is estimated that the building can be made ready for use very soon. It will be used by the military authorities during the war, and will then revert to the sanatorium association.

During the past year the city of Paris has established temporary tuberculosis pavilions on the grounds of six general hospitals. The total capacity of these pavilions is 464 beds, but, notwithstanding the enormous number of tuberculous patients in Paris among the refugees and persons invalided from the army, the pavilions are not more than half full. Many factors contribute to this result. The large amount of work thrust upon the civil authorities by the war conditions has not permitted much to make the pavilions attractive.

The American Red Cross has secured permission to visit these hospitals and to befriend the tuberculous patients. On the first visit, inquiries were made of the patients as to what they most needed. On the second occasion, the visitors did not go empty-handed; they took with them games, stationery, postage, jelly, colored crayons, sketch books, and other articles to entertain the patients. The Red Cross hopes that not only will the lives of these patients be made much more comfortable and their families relieved of anxiety, but that making the surroundings more cheerful, providing additional food, games, better equipment, reclining chairs, and some form of recreation and entertainment, will result in the patients staying for longer periods. The use of the pavilions to their capacity would obviate the necessity of erecting additional tuberculosis hospitals with 300 beds, which would involve great expense and long delay.

Four chateaux equipped for use as sanatoriums, several automobiles, a large supply of blankets, food and other supplies, office equipment, and the funds of the society were turned over to the Red Cross by the founders and directors of Les Tuberculeux de la Cuerre. The funds thus received, together with the proceeds of the sale of some of the property, have been set aside in a special Red Cross fund for the care of tuberculous patients and the prevention of the disease.—News Service of the American Red Cross.

* * * *

SPHAGNUM MOSS AND WOOD PULP FOR SURGICAL DRESSINGS

War-Time Need for Conservation of Cotton Leads to the Discovery of Satisfactory Substitutes—Source of Sphagnum and Cellulose

Two very good substitutes for cotton in the making of surgical dressings have been brought into use by the need for conservation of hospital supplies at this time. These

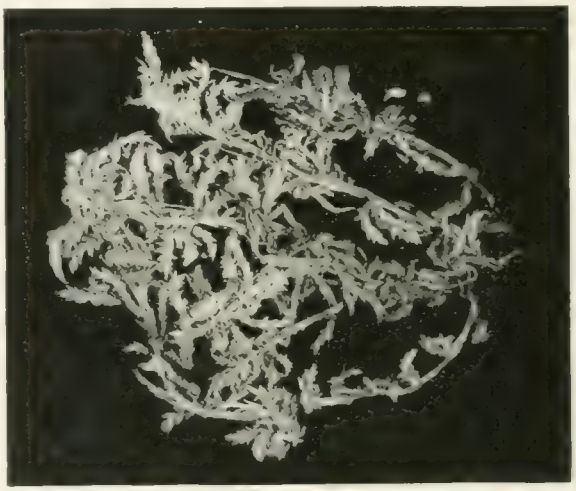

Fig. 1. A piece of sphagnum moss, which was gathered by a church society on the Atlantic coast, and sent to the American Fund for French Wounded for use in dressings.

are sphagnum moss and wood pulp cellulose. Sphagnum moss has its economical advantage, because it may be gathered and prepared by volunteer help, and has very good absorption, and the wood pulp because it has all the absorption of the best cotton and may be cut and separated in a much shorter time.

Sphagnum moss grows in moist, boggy places, and is of several varieties, only a few of which have the necessary

power of absorption to make them usable for surgical dressings. Moss grown in a mild moist climate is the best. The moors of Scotland and Ireland produce a fine variety. In this country we have found the best sphagnum in the boggy districts of the Atlantic coast, growing where it is most free from foreign organic material.

The moss, after being gathered from the peat bog, squeezed out, and freed from most of the organic matter, is specially dried and carefully packed into clean sacks. When almost dry, but still moist enough not to be brittle, it is picked over by hand and graded. The first grade is usable for any dressings where cotton is required, and the second grade for bed pads. After grading, the moss is hung up in hammocks for complete drying. Both the British and Canadians have made extensive use of sphagnum in this war.

Wood pulp cellulose, the trade name for which is cellucotton, has been for some time used by the central powers wherever it would replace or conserve the use of cotton. The experiments in this country have proved that the wood pulp made here is of even better quality than the

Fig. 2. Wood pulp cellulose. Observe the fine, lacy texture.

specimens received of those in use by the Teutonic governments. Cellucotton is pure white in appearance, soft, and of a lacey fineness, and absorbs best when broken up and used in thin layers.

The report of the Bureau of Standards of the Department of Commerce shows that wood pulp will absorb twenty times its own weight of distilled water. Its absorbent capacity is no greater than that of the best grade of cotton, but it holds moisture longer, and its absorption is twice as rapid. Wood pulp is also much easier to handle and cut than cotton in the making of various pads, replaces twice the bulk of cotton and in this way saves time and labor.

At the Chicago headquarters of the American Fund for French Wounded, where large quantities of cellucotton has been used, Mrs. G. H. Taylor, the supervisor of dressings there, reports that women workers who have become proficient in the making of the Carrell-Dakin pads, in which a very thin layer of material must be used, can make many more in a given time than they could when the absorbent cotton was used, as the wood pulp may be so much more easily separated. The present market price of cellucotton is about 32 cents per pound, but there can be little doubt that when this material comes into more common usage, and is more extensively manufactured, this price will be lowered.

ART FROM A WAR HOSPITAL

Drawings By the Staff of the Third London General Hospital at Wandsworth

The staff of the Third London General Hospital, Wandsworth, is recruited mainly from among art students, whose

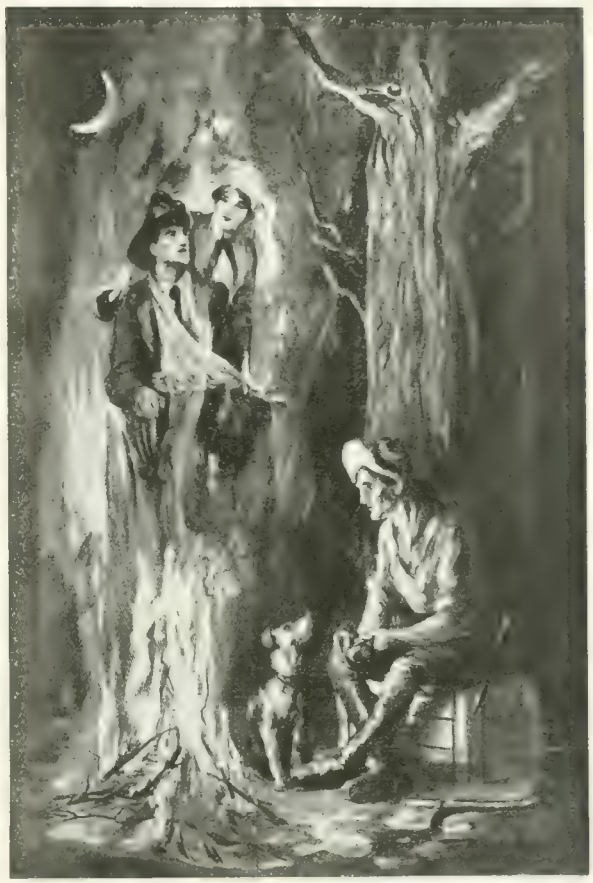

Fig. 1. When wounded—and afterward ("Memories," by Private R. B. Ogle). This and the following illustrations are reproduced from *The Hospital*, London, which publishes a number of drawings from the exhibition by the staff of the Third London General Hospital, Wandsworth.

joyous exuberance apparently has not been tamed by the drudgery of institutional life and the tragic scenes by which they are surrounded. This hospital has been made

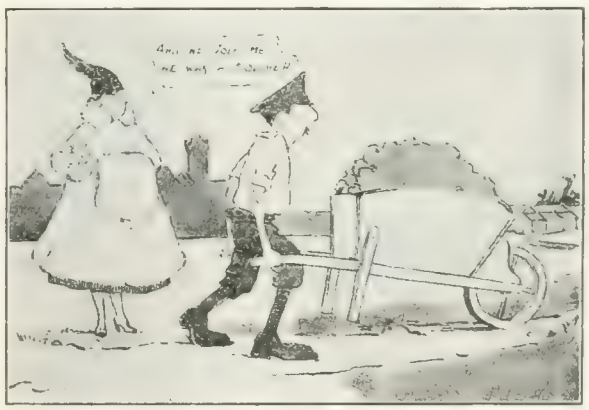

Fig. 2. "The Discovery," by Lieutenant J. A. Grant.

famous by the artistic productions of its staff, which have been published in the hospital's gazette and have recently been exhibited in London. Most of these drawings take up the lighter side of hospital and military life, though some

are serious or sentimental. The always interesting *Hospital* of London, which reproduces a number of these pictures, is moved to make the enthusiastic suggestion:

Fig. 3. "Types of the British Army," by Lance-Corporal J. H. Dowd.

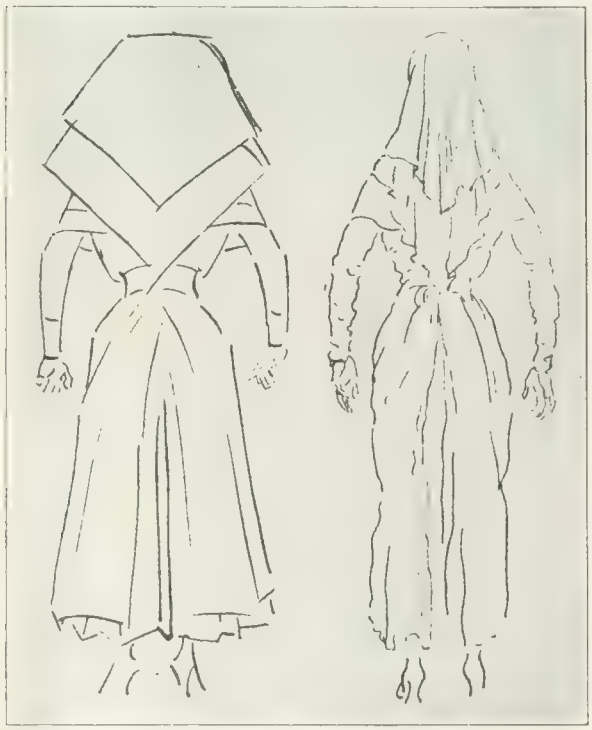

Fig. 4. "No Starch Shortage," by Lance-Corporal J. H. Dowd.

"Why does not every hospital possess its own artists? Why have they been content to possess a publicity department, in which the draughtsman has no share? The faculty of drawing is not so rare as it is supposed to be. The truth is that that which is never looked for will never be found. . . . In days when the drawing of advertisements has become a profession, there can be no excuse for not adopting the hospital poster. But the ideal should be for each hospital to produce its own draughtsman."

We are republishing some of these illustrations from *The Hospital.*

* * * *

Vegetable Gardens for Hospitals

As an instance of what hospital gardening can supply, remarks *The Hospital*, London, we give the following account of the work during the late season of the matron of a fever sanatorium with eighty beds. Thirty pounds of jam and jelly were made; five dozen bottles, the maximum number obtainable, of fruit were preserved; a good supply of walnuts, damsons, onions, tomatoes, red cabbage, and beetroot was pickled; and in addition 50 pounds of apple and tomato chutney were made. The flower-beds, too, were utilized for the production of lettuce, radishes, onions, parsnips, carrots, turnips, etc., while all other ground available was dug up and planted with potatoes, artichokes, dwarf beans, cauliflower, and many other vegetables, the seeds of which were sown by the matron, who afterward planted out the seedlings in the allotted space with the happiest results. It is interesting to note that, although this was a first attempt on newly dug ground, the potatoes yielded an average crop. It is encouraging, too, continues *The Hospital*, that these successes have emboldened some to make their first experiments with poultry. THE MODERN HOSPITAL will be glad to hear from American hospitals that have good results to show from institutional gardens.

* * * *

Inoculation Day

My blood the surgeons fortify
With antiseptic serum;
The dread bacilli I defy—
What cause have I to fear 'em?
We form outside the pest-house door
At one o'clock precisely,
But if we get our dose at four
We think we're doing nicely.
And in our arm the surgeon stabs
A hypodermic squirter,
E'en as the hungry hobo jabs
His fork in a frankfurter.
I'm full of dope for smallpox germs,
For typhus and such evils;
For broken heart and army worms,
For chestnut blight and weevils.
I'm doped against the bayonet
Wielded by German demons;
But no one seems to think I'll get
Dear old delirium tremens.

—A Private at Plattsburg, in the *Journal of the A. M. A.*

A movement to raise $250,000 for the establishment in Paris of an "Allied Hospital Unit" base hospital was launched in Baltimore in January by delegates representing the American Association of Progressive Medicine, the Society for Medico-Physical Research, the American Society of Orificial Surgeons and the Medical Society of the United States.

Col. Wood, Depot Quartermaster at Louisville, Ky., has been authorized by the War Department to proceed with the erection of a hospital for his department, to cost $50,000. The building will be a brick and stone structure, 2½ stories high.

PHILANTHROPY AND THE PUBLIC HEALTH

Conducted by THE NEW YORK ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR.
BAILEY B. BURRITT, General Director.
WILLIAM H. MATTHEWS, Director.
Department of Family Welfare

Please address items of news and inquiries regarding Philanthropy and the Public Health to the New York Association for Improving the Condition of the Poor, 105 East Twenty-second street, New York City.

Nutrition Clinics and Classes*

BY FRANK A. MANNY, Special Investigator, Bureau Welfare of School Children, New York Association for Improving the Condition of the Poor.

Some years ago, a girl of 14 in a private school was found, by a comparatively untrained assistant teacher, to be suffering from a serious spinal defect. When the history of the case was written up it was found that few children of her age had received so much attention from specialists, for she had been examined at various times by a dozen or more leading men in the medical profession. She had, however, never been taken to a spinal specialist, and there was no record of an examination which was concerned primarily with ascertaining her general condition and what needs called for attention apart from the special one considered at that particular time.

The multiplication of special clinics has led many physicians to urge the advisability of providing for more adequate general examinations, and many specialists have given much of their time to meeting this need. The opening of nutrition clinics offers a means of attacking the problem, for, while the nutrition specialist has a field of his own, never so thoroughly appreciated as now by colleagues and the public, yet these special needs are involved in the whole life of the patient to an extraordinary extent.

The work of the school medical inspector has called attention to this need of coordination. Limited and superficial as school examinations are compelled to be, it is difficult as yet to estimate their present and future influence in the forward health movement. The fact that in New York city practically a million children are formally passed upon as to physical condition at least two or three times during six years of school life, marks a significant stage of progress. When reasonably adequate staff provision is made for this work, the credit side of the community health account will receive very perceptible additions.

"Anemia" and "general condition" have been among the terms included in these general examinations, but the present tendency seems to cover this field by the use of the term "nutrition."

Naturally there has been much disagreement as to the extent of the nutrition defects. One attempt to improve this condition is shown in the statement of diagnosis known as the Dunfermline Scale for Grading Nutrition, adopted by the Bureau of Child Hygiene of New York City's Department of Health in December, 1915.[1] One feature of this scale is the requirement that each child examined be placed in one of four grades: I, superior condition; II, passable; III, requiring observation; IV, requiring immediate treatment.

A test was made of this scale in the examination of nearly three hundred children successively and independently by each of three physicians. Nutrition was graded and the other defects merely indicated by check in the usual manner. As a result, defective nutrition, which is ordinarily one of the least agreed upon of the defects, showed greater agreement even than was found in teeth and much greater unanimity than was given to tonsil and nasal breathing defects.

The proportion of defective nutrition reported among New York city's children on this basis, averages some-

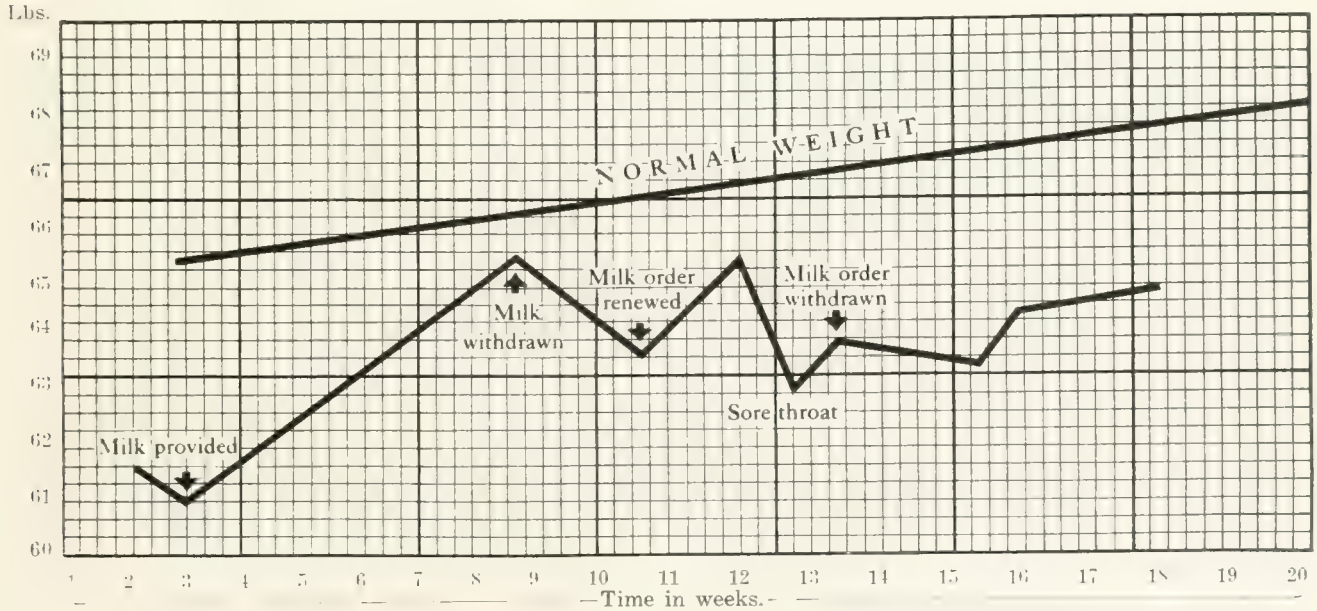

Chart 1. Emma R., aged at the beginning of weight curve 10 years 10 months, was losing weight, so was furnished a quart of milk daily and showed immediate gain. Withdrawing the milk sent down her weight, and a renewal of the supply brought an advance at once.

*See related articles by the same author on Nutritional Guidance, THE MODERN HOSPITAL, July, 1916, and Indexes of Nutrition and Growth, THE MODERN HOSPITAL, November, 1916.

[1]See A Scale for Grading Nutrition by Frank A. Manny in School and Society, January 22, 1916.

thing more than 10 percent. There is good reason for the opinion that this figure seriously underestimates the real situation. Surely no conservative study of living conditions would justify the expectation that 90 percent of the children in New York city's families are free from under-

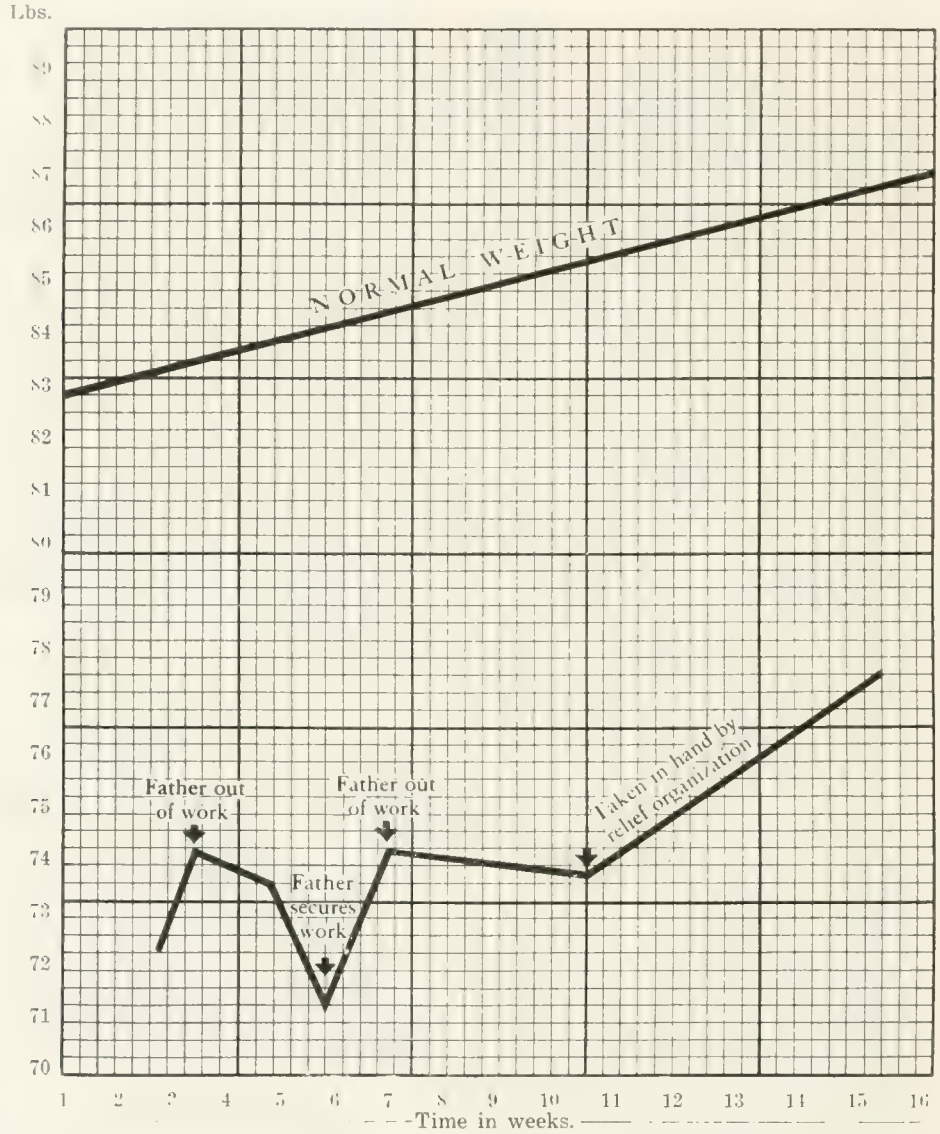

Chart 2. Hattie T., aged at beginning of weight curve 13 years 1 month, lost weight rapidly when her father lost his job, but made gains as soon as he resumed work. The final progress is due to the care given by a relief organization.

nourishment and underdevelopment. But, even at this moderate rate there are at least a hundred thousand children of school age, and as many more in the pre-school and transition-to-industry ages, who are in urgent need of nutritional care. An examination of all the members of two schools last winter brought so many pupils to the new nutrition clinic that it was soon unable to receive additional cases.

Dr. William R. P. Emerson,[1] of Boston, in the Berkeley Clinic, the Home for Little Wanderers, and the Massachusetts General Hospital, has shown the possibilities of this activity. He has made much of the presence of mothers at the clinic, and has succeeded in bringing about remarkable improvement in weight on the part of the children. He has been very successful in making use of the class system with its opportunities for competition and cooperative teaching.

In New York City the first clinic was opened at Bellevue in the fall of 1916. Dr. Linnaeus E. La Fetra is director of the work with children, and Dr. Charles Hendee Smith is in charge of the nutrition clinic. A preliminary study of nearly two hundred, who had averaged three months under care, showed that two-thirds of them had averaged more than double the expectation of weight growth at the various ages. Many interesting problems of standards of living and health have arisen in this connection.

Nutrition clinics have also been opened at the Bowling Green Health Center under Drs. Miner Hill and John L. Kantor, at Cornell under Dr. May G. Wilson, at the Post-Graduate under Dr. Morris Stark, and at the Brooklyn Association for Improving the Condition of the Poor under Dr. Oswald Joerg.

A study of five thousand cases of defective nutrition reported in the borough of Manhattan before the opening of these clinics showed that about 45 percent of these were at least nominally under the care of private physicians.

[1]See the Class Method in the Dietetic and Hygienic Treatment of Delicate Children. Pediatrics, September, 1910.

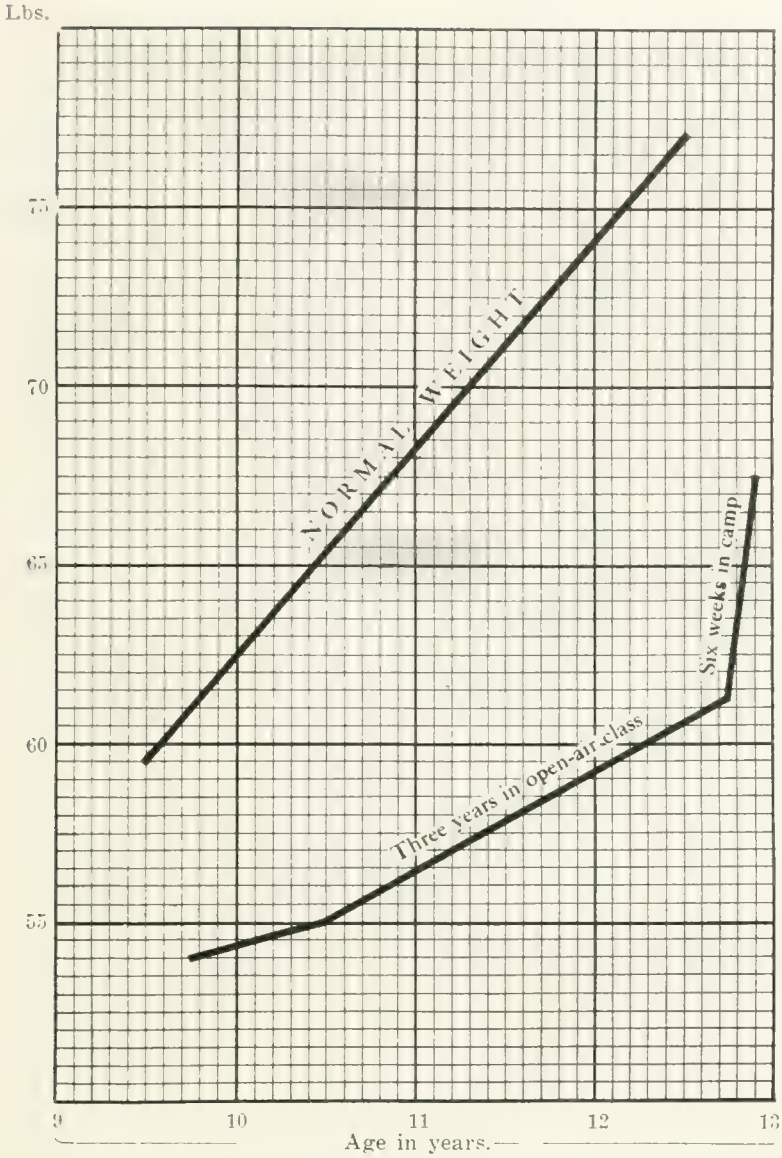

Chart 3. The weight curve of Edward J., aged at the beginning 9 years 9 months, shows the effect of three years under most favorable school conditions available and six weeks in a clinic camp.

Of those who had been referred to clinics, many were not weighed, and in some cases the care given consisted of a dose of iron, codliver oil, or salts, uniformily given to all comers according to the inclination of the doctor in charge. In some situations very little change would be required to establish good nutrition clinics, but in many of them nutrition cases receive very little attention except from social service workers and nurses.

Among these five thousand cases nearly 20 percent were neither attending clinics nor in the care of private physicians. The absence of scales in nearly all of the schools makes it very difficult for overworked nurses to find any satisfactory means of determining progress or retrogression. One of the greatest health services that could be rendered would be the equipping of all schools and clinics with scales and creating machinery to encourage their regular use. The scales should be as much a matter of course in equipment as the thermometer.

Two agencies offer possibilities of development which are as yet too often neglected. These are the open-air class room and the summer camp. Each of these is doing valuable service, but at present they are frequently unrelated to each other and bear little relation to the larger situation of which they form a part. What is needed is an agency in each school section which will serve as an observation station through which will pass the children whose condition and requirements cannot be determined without study. The open-air or special class room could well serve this purpose. In some schools at present it is congested with special cases, who remain for several years making little or no progress. The first need is the observation station in which it will be found out what course will probably yield the best results. With a definite program much can be accomplished with many cases in the homes. The children reported in Charts 1 and 2 are of this type. Effective cooperation between the school nurse, the teacher, and, if necessary, the representative of a relief organization, will soon bring these cases to a satisfactory state of growth under even fairly good economic conditions.

When this group of cases has been sifted out, at least three other classes need to be selected for various types of care. These will include all children who have need of definite medical service. Some of these require care for nutrition alone, but the greater number of them have complications with from one to ten other difficulties calling for medical or surgical treatment.[1] One group can be cared for in the clinic without any special change in school conditions. Another will gain much more rapidly if placed for several weeks or months in a special class room in which adjustments can be made for feeding, rest, fewer lesson periods, etc.

There is a fourth group which is probably larger than we now realize. This includes the children who will not reach a satisfactory state of growth until they are placed under conditions of full control by experts. These children now clog the open-air and special class rooms, increase greatly the amount of absence, and lower the level of work accomplished.

Chart 3 shows what was accomplished for one boy in six weeks at a clinic summer camp after three years of special class care. Most striking results were shown in a study made of the boys in a truant school Good food, exercise, occupation, and regular hours of retiring made the weight line of actual growth appear to be almost perpendicular.

There is need of a demonstration showing how the worst-conditioned quarter or third of a neighborhood is distributed with reference to these various groups. Until this is done there will continue to be waste and duplication of effort. The next step toward a better state of affairs seems to lie in the establishment of nutrition clinics.

The special equipment of these clinics has as yet made little progress. The food exhibit proves to be an excellent means of showing mothers and children desirable meals and possible substitutions.[2]

The Bowling Green Neighborhood Association in "Wall Street's back yard," in its new building is working out a

[1]Dr. Emerson, in International Clinics, vol. II, series 27, reports a study of one hundred "well children," 98 percent of whom were found to have one to eleven defects; 22 percent of these were 10 to 20 percent underweight.

[2]The exhibit worked out for the Post-Graduate Clinic by Dr. Stark has recently been duplicated by the Natural History Museum for use in its educational campaign.

combination diet kitchen and nutrition clinic. This pioneer health center is also attempting, by the use of library and club rooms, to meet the common difficulty of wasted time spent in waiting, on the part of the children and mothers. The most fundamental attack upon this, as well as other forms of waste, however, will be through a comprehensive

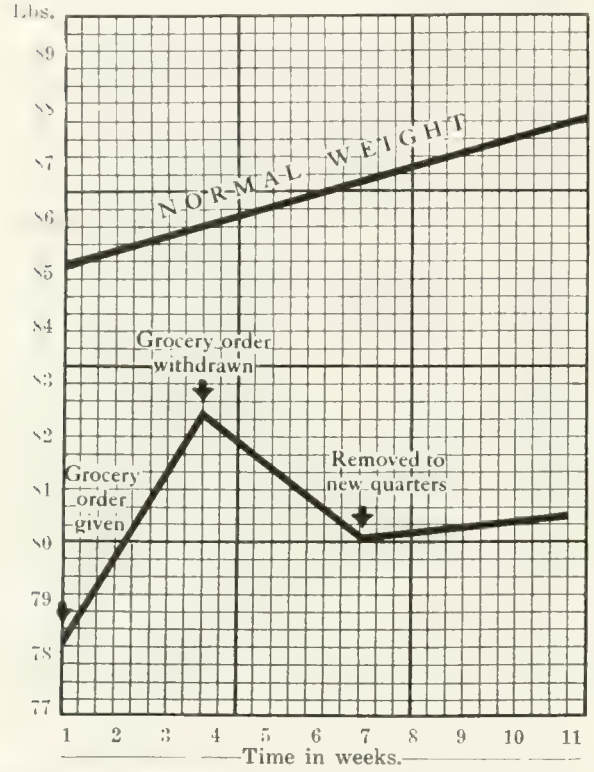

Chart 4. The weight curve of Herman L., aged 13 years 3 months, shows the effect of a month's supply of groceries, the loss resulting from a withdrawal of the order, and a quick response in weight gain on removal to more favorable quarters.

plan utilizing school and other forces to divide the field and place each case where it will be cared for most economically and efficiently.

There never has been a time when so intelligent an interest in matters of feeding and general hygiene has been so widespread as now. At this time, unfortunately, physicians and nurses are required in national service to an extent that is seriously crippling the already too limited clinic and dispensary service.[1] As a matter of health conservation, there is need of a plan which will organize most effectively whatever resources are available. It would seem that, with prevailing conditions of living, the nutrition clinic has a most important function, and that a program articulating a number of these agencies could bring together material which would answer many urgent questions as well as to give aid to thousands of families in need of help and guidance.

Graduate physicians and others who have been at some time in their careers members of the staff of Lincoln Hospital, New York City, have recently formed a permanent organization under the name "Lincoln Hospital Alumni," with Dr. Harry Wald as president; Dr. Thomas E. Freston, vice-president, and Dr. Zachary Sagal, secretary-treasurer.

[1]In a recent study of medical inspection it was startling to find how many communities are already compelled to resort to makeshift arrangements to fill vacancies caused by war demands.

WAR TIME INSTITUTION ECONOMIES

How to Meet the Increased Cost of Hospital Operation*

BY P. W. BEHRENS, Superintendent of Toledo Hospital, Toledo.

The recent increased cost of operating Toledo Hospital has been met in the following manner:

Rooms.—The price of all rooms and wards has been increased 50 percent, which gave us an income of $1,400 per month over previous time.

Operating Room.—We have increased our operating room charges 33 percent, and an extra charge of 25 cents is made per 100-gram can of ether. Each surgeon must provide and pay for his own rubber gloves.

Dressing Room.—Each patient is charged according to the material used and not according to a fixed price. The result has been that the dressing room is more than self-sustaining.

Laboratory.—In the laboratory we have increased the income in the following way: Each patient admitted is charged a fee of $2, for which the patient receives one routine urinalysis and one blood count, and all other work is charged for accordingly from $3 to $15, with the result of about $200 per month profit. The laboratory was formerly operated at an approximate loss of $125 per month.

Anesthetist.—By engaging an anesthetist at a salary of $100 plus $40 for maintenance per month, and charging the patients $3 for each anesthesia, at an average of three operations daily the hospital realizes a net gain of $130 per month. The anesthetist also operates the x-ray department, which eliminates our former plan of employing an x-ray operator on the fifty-fifty basis, which was equivalent to $75 per month. The present arrangement affords the hospital a gain of $100 per month.

Drugs.—With the exception of the more simple drugs (which are kept on the floors), all drugs are sent out from the drug room on prescription at a rate covering the salary of the pharmacist, running expenses of drug room, and cost of drugs.

Charity Patients.—To relieve the hospital treasury of taking care of charity cases, our philanthropic friends have deposited in one of the banks of Toledo an amount sufficient to meet this necessity.

To Prevent Waste.—All hospital supplies are given out by requisition or on exchange in all departments. This includes linen, surgical supplies, housekeeping, and laundry supplies.

Modern Equipment.—Modern equipment and foresight in buying supplies are two very important factors in meeting the increased cost of hospital operation. Modern equipment increases efficiency and reduces the number of help. All breakage must be paid for by the employees, which covers this loss.

Male Help.—Formerly all male help were housed and fed in the hospital, increasing expenses and causing dis-

*Read before the Ohio State Hospital Association at its Cleveland meeting.

satisfaction. This difficulty was overcome by increasing salaries $20 per month, discontinuing hospital accommodations, which resulted in a saving of $10 per employee per month. The salaries paid were $35, and maintenance, equaling $30; total, $65. At present we pay $55 and no maintenance, resulting in the saving of $10 per month, or $840 per year, reckoning on an average of seven male employees.

* * * *

SMALL SAVINGS THAT COUNT

How Hospitals May Economize While Helping in the Conservation of Coal

"The shortage of coal for every day of the ensuing year amounts to about 40 ounces or 2½ pounds for every man, woman and child in the United States," says the committee on coal conservation of the Chamber of Commerce of the United States in a recent bulletin. "Great economies in the use of coal will be effected by the factories, the central heating, lighting and power plants and the railroads. But small savings must not be neglected. Some opportunity is presented to every person every day to save coal by reducing the consumption of heat, light or power. The responsibility for making these savings is widely diffused among millions of people. The aggregate importance of them is correspondingly great. Every ounce of coal saved is an outright contribution to the nation's war-time need of fuel." Some of the suggestions which are applicable to hospitals are the following:

"*Conserve electric light;* electric current usually comes from coal. Consult your dealer as to the most economical types of lamps suitable to your conditions and fixtures. A 25-watt lamp used instead of a 40-watt lamp saves at least an ounce of coal every two hours.

"*Turn lights off when not needed;* if a 25-watt lamp or an ordinary gas light is turned off, even for short intervals, the aggregate saving may easily be an ounce of coal a day for each lamp.

"*Discard carbon filament lamps;* substituting a 25-watt tungsten lamp for a 16 candle-power carbon filament lamp provides a better light and saves two or three ounces of coal every day.

"*Burn gas in mantles, not in flat-flame burners;* the old-fashioned flat-flame gas light burner uses more than twice as much gas as a mantle burner giving more light. Each mantle burner substituted for a flat-flame burner will save probably not less than an ounce of coal a day.

"*Attend to the lubrication of machinery;* a drop of oil will often save a ounce of coal. Careful attention to the lubrication of all working parts of machinery will save many pounds of coal in the day.

"*Do not super-heat rooms;* observing the thermometer and turning off radiators to hold the temperature below 70 degrees reduces the load on the heating plant.

"*Conserve all heat and power;* keep in mind that every loss of heat or power is a loss of coal. A leak in a steam connection and a super-heated office room are alike the cause of wasted coal. Keeping a heavy power unit in operation when a lighter one would carry the load wastes coal, and so does all unnecessary use of electric elevators in office buildings."

"These methods of saving heat, light and power," says the committee, "are not unfamiliar. Everyone, perhaps, will think of some effective means of saving which is not included in this list. The important idea to be impressed on every person is that a great need exists for saving coal and that even small savings must not be overlooked."

A point which may well be impressed on hospital employees is the following: "Saving coal is not always identical with economy to the person effecting the saving. It may be someone's else coal that is saved; or the time and expense required to effect the money advantage. Nevertheless, it is a patriotic duty now to save coal at any reasonable expenditure of time and material. And in the majority of cases, there will be a direct or indirect advantage to the person entitled to the credit for the saving."

Copies of this bulletin may be obtained of the general secretary of the National Chamber of Commerce, Riggs building, Washington, D. C.

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Some Small-Hospital Economies

BY CHARLOTTE JANES GARRISON, R. N., former Superintendent Hospital Sanatorium, Kalamazoo, Mich.

In this paper nothing very original or unusual can be anticipated. This rather may be regarded as a presentation of every-day economies, born of personal and exhaustive attempts at making the most of one's budget.

The keynote in economical administration lies in the point of view of the superintendent and associates. Indifference in the attitude of the executive and heads of departments is fatal, for the most conscientious general-duty nurse will make little effort to save if her pains are not noticed and appreciated. A knowledge of prices and approximate amounts to be used will cause heads of departments to be more vigilant in checking waste and in impressing this upon subordinates. An occasional lecture by someone especially qualified to speak on food conservation has proved of value in securing a real, intelligent cooperation.

One of the most important devices for knowing costs and quantities used is an adequate requisition and stock system. The small hospital deserves and requires as accurate an accounting system and dispensing methods as the large institution. It is well to have a certain time for a responsible person to give out supplies as needed to kitchen, floor maids, and laundry. At this time, broken or worn-out articles may be exchanged or kept for repairs. A record of supplies given out may prove of value in estimating the durability or efficiency of articles as a guide to later purchases. Further, this may be a means of comparison of care used in handling tools and in the amount of supplies used for a given number of patients. Nursing supplies may ordinarily be dispensed once a week. It is of the greatest importance that there be a regular day and hour for this work, and that the heads of departments bring in requisitions promptly. In a very small hospital, it may fall to the superintendent to take over this work and in no other way is so valuable an insight into the machinery of the institution secured.

Stationery stock should be kept up, lest expensive printed forms be utilized for other than the original purpose. Blank forms or scratch pads are cheaper than printed blanks for incidental use, and should be furnished where needed. In this period of uncertain supply and high paper costs, it has seemed wise to have such forms as may be so utilized printed on both sides. The size of statement blanks and day and evening reports may be cut down with considerable saving. Almost all institutions furnish stationery, either openly or surreptitiously, to members of the hospital family for personal use. This unnecessary expense may be minimized by requiring a request for such supplies. Pens may be returned with requisition. Blotter waste is a very common sight in some

hospitals, limited only by the desire of the nurse to see her desk spotless. Indelible ink, because of its excessive cost, should not be placed carelessly on the floors, but with a marking outfit in a definite place in linen room or laundry. Smaller tags and labels cost less than the regulation size, and serve as well. All clean wrapping paper and twine may be saved with advantage. In some localities, roll wrapping paper may not be had at any price. Clean newspapers may have a multitude of uses, in the hospital without funds, as well as where paper is off the market. Sometime ago one of the largest sanatoriums in this country began to use newspapers for sputum napkins and paper bags.

It is the opinion of a number of hospital superintendents that commercial laundries can do work quite as cheaply and more efficiently than the institutional laundry. Experience proves that the properly conducted laundry is one of the greatest assets that a hospital may have. Too few institutional laundries are on a business basis, and many turn out a quality of work which no commercial laundry would dare to send its patrons. Every institution should have a cost system, and only the closest cooperation between laundry and office can effect this. Unless the washtub is in the hands of an experienced washer, the tubs will be invariably overloaded, too much soap and bleach used, and indifferent results be the price. It pays dividends to send the head of the laundry to visit other hospital washrooms, and to have a successful laundry owner on the list of one's friends. It is a poor workman who does not come back with at least one good idea, and a stimulated pride in "our hospital." Very often helpful suggestions for this department are seen in current magazines, and may be read with profit by the one in charge. The implied consideration and respect for the ability of those having responsibility of departments is the greatest stimulant of intelligent cooperation.

Someone has said that no more extravagant workers exist than those employed in hospitals. In the matter of cleaning compounds, undoubtedly treble the amount required is used. The conscientious issuing and checking of supplies handled by careless employees decreases cost. Soap powders are convenient, and economical, if purchased wisely. A good powder at a few cents more per barrel will do far better work than the cheaper product, largely composed of filler. Dispensing it in covered receptacles, with a small scoop or measure of the required amount, helps to prevent the reckless pouring in of powder. White bath soap, purchased in quantities and allowed to dry out, is a familiar saving. Soap scraps may be boiled for use in enemata or shampoo on the wards, and the excess used in the laundry. Expensive detergents, solvents, and deodorants have no place in the efficiently managed hospital, since the conscientious use of soapsuds has proved the best disinfectant available. Worn mops, pails, brushes, as mentioned elsewhere, should be brought in for inspection before new are issued. A well-aired and equipped mop closet is one of the rarest sights about the average hospital. A few conveniently placed shelves and mop and broom rack contribute to the order of this place. Time and bother may be eliminated by placing in each closet each article required in the housework of the floor, and keeping it equipped. An efficient furniture polish may be made of boiled linseed oil and gasoline in the proportion of 4 to 1, and, applied with old, soft cloth, it proves as effective as the patented article.

In the culinary department, the morale and economy seem to depend largely upon the character of the one directly in charge of the work. Especially is this true in the small hospital where no dietitian is employed. A hospital man of much experience once advised securing a woman not over 40 years of age, as older women do not stand the physical strain, nor are they amenable to suggestion. Younger women are neither stable nor interested in their work. After all is said about selection, most people take what can be had, and are thankful if it proves a wise draw. It is to be expected that a woman who has worked only in her own home will have a greater personal interest and exhibit more thrift than the average woman, who has found her employment in hotels and restaurants. In the kitchen more than any other department, eternal vigilance is the word. A close watch of the refrigerator for available left-overs, as well as for sanitary condition, should be automatic. An inspection of garbage is often enlightening. A piece of new equipment may be the means of cutting the cost, as an adequate refrigerator in permitting the purchase of meats and butter wholesale. Sometimes the only thing needed to persuade the board member to vote for the coveted piece of equipment is just an intelligent estimate of the saving to be effected. A sink at convenient height, a conveniently placed table or cupboard may be the means of saving much time and irritation for that harassed creature, the cook. A pencil and pad placed on the wall for a memorandum for supplies is a small thing, but one that may save time and effort in accumulating the required supplies for the day. In these days of uncertain supply, one who can plan meals for the small hospital for a week ahead is indeed a marvel, if left-overs are planned to be utilized as well. The menu may well be placed on the bulletin board several days in advance, giving more time to plan the work than a day. In the diet kitchen, the plan suggested by Mr. Bacon in THE MODERN HOSPITAL some time ago is saving some hospitals from 20 to 30 percent on their food cost. Inspection of trays is most illuminating, and when patients have the gratification of having a hand in the selection we find little wasted.

Insurance inspectors condemn cluttered halls, basements, and engine rooms. As soon as packing boxes, barrels, kegs, etc., become useless, someone may be found who will carry them away and pay for the privilege. Paper containers, if intact, may be returned to the company for refund. Bottles, old rubber, iron, paper, etc., now yield a very respectable sum. One institution uses the money from this source for amusements or special entertainment for patients. Another turns back to the department the amount saved, to be used for a special bit of equipment.

In visiting one of the most famous hospitals in this country, it was my privilege to talk with two heads of departments. In discussing ways and means, both the dietitian and the head of the laundry expressed the opinion that the credit for any attainment of their department should be given to the superintendent. In the words of the former, "Dr. W. is so appreciative, and so consistently supports our work that one cannot but feel like working the harder for him and for our hospital." If this spirit will bring results in our large, well-endowed hospitals, how very necessary a like cooperation for our small, poorly equipped institutions! The keynote of an economical administration may very generally be found in the character of its superintendent.

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An Institution Formerly Held Utopian Forced on Great Britain as a Practical War Economy Measure

The communal kitchen, referred to in this department last month, has come to stay, according to "A Social Worker," writing in *The Hospital*, London. A separate

kitchen and dining room for each home involves waste of material, time, and strength. Particularly is this true among the very poor, who must buy in the smallest portions and consequently at the highest prices, and prepare food hastily at the fag-ends of days devoted to labor outside the home. The results—undernourished children, overworked mothers, fathers too often addicted to drinking as an offset to the dreary monotony of unpalatable food—have long been only too obvious. Not, however, until the war, by increasing prices of food and fuel, rendered the situation unbearable, was any organized attempt made to create new conditions. Now, it seems, the communal kitchen is becoming recognized as a war necessity.

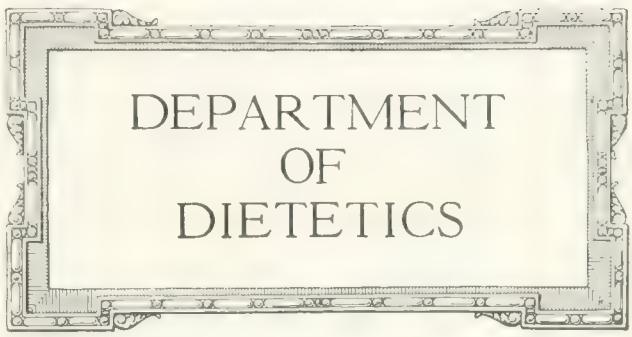
A newly opened communal kitchen at Hammersmith will, when its fifteen distributing centers are in working order, send out about thirty thousand meals daily. In all parts of Great Britain various local bodies are starting or considering their own ventures. The British Ministry of Food is undertaking to train organizers for municipal kitchens, camp and factory canteens, colleges, hotels, and other institutions.

One interesting practical experiment commented on is a communal scheme for the dinners of children at school, participated in by seven out of eleven villages in the rural district of Christchurch in Hampshire. As everyone knows, bread usually forms the staple of school lunches and other lunches brought from home. The school dinner provided by these Hampshire villages includes thick soups, stews, milk puddings, and stewed fruits, but *no bread.* The children have made satisfactory gains in weight, and the saving in bread has been estimated as 2,844½ pounds in four weeks. No charity is involved. Children aged under 7 pay 1 penny (about 2 cents); those between 7 and 9, 1½ pennies; and those over 9, 2 pennies. For this they receive two courses, soup and pudding, or stew and pudding, with second helpings if desired. Besides the two very important advantages of securing more satisfactory nourishment for the children and effecting a saving of bread, it is remarked that a valuable service is performed in introducing new kinds of food into village menus.

Care of Wood and Linoleum Floors

Manufacturers of hardwood flooring tell us that soap and water ruin the finish and shorten the life of flooring. This is only too true, but it does not seem possible to cover the finest hardwood floor in the world with a coat of wax and call it either beautiful or sanitary after it has been spattered with body excreta, drainage from infected wounds, or hot solutions. Very hot water used in too large amounts and splashed in all directions and strong lye soaps and powders are, of course, unnecessary and destructive to the floors, and a moderately warm water used with neutral soap should be used only when needed and always followed by waxing with some good floor finish thoroughly rubbed in. Between the necessary washings floors may be kept in good condition by the use of oil dust mops. Dust mops raise dust and do not protect the floor finish. The same common-sense housekeeping rules apply to the care of battleship linoleum, and perhaps even in a greater degree, as the life of the linoleum depends on how long its dressing remains.

Dr. L. R. Williams, who several months ago opened a small private hospital in connection with his offices at Jonesburg, Mo., is reported to be organizing a stock company to erect a $20,000 hospital building at that place.



Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio.
Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, O.

The editor of this department is anxious to get as complete a mailing list of dietitians as can be obtained. If you are not positive that your name is already in this list, please forward it at once, with complete address and position held in the institution.

The National Emergency Food Garden Commission has asked for a copy of our mailing list. The literature sent out by this commission will be valuable, and every dietitian should avail herself of this opportunity to get it.

The executive committee of the American Dietetic Association will meet in Chicago in February. The members of this committee will be glad to receive communications or suggestions for furthering the work of the association, or relative to the program for next year.

LULU G. GRAVES, President.

The Work of the Dietitian in the Canadian Military Hospitals

BY VIOLET M. RYLEY, General Organizing Dietitian, Canadian Military Hospitals.

I have been asked to explain the work of a dietitian in the Canadian military hospitals, and to allow the directions I have placed in the hands of each dietitian to be published. It is with much pleasure that I comply, hoping that in some way I may be of service in assisting the American dietitians to prepare for the day when they will have to face our problem in caring for their returned wounded soldiers.

The Military Hospitals Commission has at the present time over fifty military hospitals and convalescent homes, and several others under construction. These vary in size all the way from the small tuberculosis sanatorium of fifty to seventy-five beds to the large convalescent hospital of fifteen hundred to sixteen hundred beds. Possibly the most interesting point in all Canada for a dietitian is the big discharge depot at Quebec, where sometimes two thousand men are fed three times a day. A dietitian, with one assistant and two pupil dietitians, is in charge of all the food served to this large number. The year 1918 will see accommodation for between eighteen to twenty-thousand convalescent soldiers.

At the present time the dietitians are in twenty-one of the larger hospitals, in complete control of the dietary department, and are being installed in the other hospitals as fast as competent dietitians can be secured, and taught the cost accounting system in use in the military hospitals.

The dietitian can perform a work of inestimable value in planning attractive and well-balanced menus, seeing that the preparation is such as it should be and the service good. Also by using a modern up-to-date cost accounting system she can tell at the end of a week the average cost of a meal. Few institutions can afford to ignore costs; therefore the dietitian largely controls the cost by selection of her menu.

Today there is a crying need for competent, executive

dietitians wherever large numbers of people are being fed. The name "dietitian" is associated in many minds with the work of teaching nurses and supervising their work in a special diet kitchen, where the special diets and meals for private patients are prepared. This is the work of many dietitians and is of the greatest importance, but the modern executive dietitian has traveled far from this limited field of operation. Today she is in control and responsible for the food served to everyone in the institution, whether patients on special or regular diets, nurses, doctors, or employees.

Why should the food for the regular patient not receive the most careful attention? Often the variety has to be more or less limited on account of cost; therefore all the greater need for a dietitian who will insist and demand that each article on the menu should be both prepared and served as attractively as possible. A menu that is faultless may be written by many, but the product may be "hopeless," because there are two places where it may be completely ruined—either in the cooking or in the serving. This is where the dietitian comes to the rescue. She can give detailed instructions (and what is more, see that they are carried out) to her cooks regarding method, temperature, and time of cooking, and she can so route the serving that the food is served hot or cold, as the case may be.

Service is the great problem of the modern hotel. It is just as great a problem in a hospital, and all the motion study and efficiency management information available is needed to assist the executive dietitian to route her work in such a way that the everyday meal being prepared for great numbers is served attractively and well.

Conditions in military convalescent hospitals are quite different from those in a regular civilian hospital. Possibly 80 or 90 percent of the men are up and walking about, only being kept there for treatment, rest, and diet. Each convalescent home has a large dining room, and usually the cafeteria service is used for all except cripples and amputation cases. In the regular orthopedic hospital, waiters are employed in the dining room, but in all others the cafeteria is being used. It saves labor and is more efficient and eliminates the possibility of cold food.

A few of the following directions regarding the duties and suggestions regarding ideals, spirit, and importance of details is placed in the hands of each dietitian:

OUTLINE OF THE DUTIES OF A DIETITIAN IN MILITARY HOSPITALS OR CONVALESCENT HOMES

1. A dietitian's position is that of a superintendent of her own department. She plans the menus, requisitions the supplies, plans the work for all employees, and is in control of that department, and every person employed in it.

2. She is responsible for the work of all cooks, waiters, and other helpers employed in the dietary department. She must assign their work to them, supervise its execution, criticise the condition of their work rooms, their uniforms, their personal appearance, and conduct while on duty, arrange off-duty time for each, and instruct them when needful.

3. She should inspect daily the condition of the dining rooms, kitchens, refrigerators, and equipment in her department (or else, if unable to do this herself, have it done by her pupil dietitian). Only by the most careful inspection, twice a day at least, can the dining rooms be kept up to the mark.

4. The dietitian will set the standard for cooks and waiters and other employees, taste every single thing prepared for the main dining room, and see that the seasoning is correct, and a product satisfactory in every respect. She holds everybody in the dietary department up to the mark.

5. During the meals the dietitian or her pupil should supervise the serving, see whether the food goes ont in the proper quantity, see that it is hot and served attractively, also that servers are working rapidly and in the most efficient manner.

6. The dietitian plans the work for all employees. This plan varies from day to day, according to the menu, number of employees not on duty, and the weather (the cleaning program is chiefly affected by the weather).

7. The dietitian or her pupil supervises the work of a special diet kitchen, where the bed patients' trays are prepared. General articles of diet come from the main kitchen, and are kept warm, but eggs and certain special articles, etc., are prepared in the special diet kitchen, depending upon conditions.

A Few Suggestions for Dietitians

1. A dietitian's ideals and spirit should influence her whole department. It will soon be realized that she is striving to serve only food that is nourishing, easily digested, properly prepared, palatable, attractive, and well served, such as should be given to patients whose chief chance of recovery may be in proper diet. Everyone in her department must realize the importance of their work in assisting to carry out this ideal. The welfare and recovery of the patients is the goal to be kept constantly before them.

2. Not only should a dietitian be able to manage the help; it is quite as essential that she be capable of working harmoniously with other officers of the institution, oblige whenever it is possible, and make everybody feel that she is the friend of the hospital and doing everything in her power for the benefit of the institution. Confidence in the dietitian personally may mean everything to her success. Master hospital etiquette and be strictly professional. The longer you live in a hospital the more you will appreciate its significance.

3. In dealing with the help try to inspire respect for their work, because it is one of the most needed elements in their life. For instance, many waiters actually suffer through lack of respect and appreciation for their occupation on the part of the public, and it stimulates and encourages them to discover that you appreciate the fact that it requires an exceptional degree of observation, memory, power to systematize, speed, etc., to be a good waiter. Understand your help and their difficulties. Give each employee his due respect and consideration and you will generally receive the same; in brief, apply the "golden rule." In planning their work, do all your thinking beforehand, and never ask the wrong person to do a piece of work. An employee is often very sensitive about his dignity, and will walk out sooner than do a duty usually performed by a man a little lower down in the scale. If you discover a malicious trouble-maker, remove him at once. One such may undermine your whole discipline.

4. Be equal to emergencies when every plan is upset without a moment's notice. A patient or guest cannot understand the cause if dinner is poor or unsatisfactory. He does not know that possibly the delivery failed to arrive or the shipment was returned as unsatisfactory, or that the chef is ill, etc.

5. A dietitian should train her pupil dietitian in every branch of administrative work in her department, so that she can plan the work efficiently, keeping in mind the variations in the menu, and number of employees available, etc. The pupil should supervise the serving of food, issuing of supplies by storekeeper, and other activities, and learn to know what every employee should be doing each hour of that particular day, so that she may intelligently manage that department. She should also gain experience in buying or requisitioning in large amounts.

6. Use good business methods in planning menus. Always consider food values, but also popularity, cost, equip-

ment, and labor available. Try to combine all these wisely as far as possible.

7. Use discretion and common sense in making your menus and in buying or requisitioning. There is as much danger in misdirected economy as in extravagance. True economy will strive for the best results, with absolutely no waste. Poor economy will economize on possibly one point, forgetting half a dozen others. For instance, in preparing creamed rice, you may save 5 cents per pound by buying a cheap rice, but it requires to prepare it the same amount of overhead charges, expensive service, milk, and eggs. Result of the poor rice, an inferior, unsatisfactory dessert, and waste. By using a good quality, the cost is increased possibly a fraction of a cent per order, but the result is entirely satisfactory and there is no waste. This illustration will hold good in many other instances that could be mentioned. A satisfactory diet will not be the cheapest, but it is the only thing that will meet the requirements of patients and the public and the ideals of the Military Hospitals Commission. Finally, study efficient methods and keep abreast of the times.

It is suggested that all dietitians should read "Shop Management," by F. W. Taylor, and "The Twelve Principles of Efficiency," by Harrington Emerson, etc., as they contain many helpful suggestions. The successful dietitian must be enthusiastic and put her work above every other consideration.

Dietitians must never lose the sense of proportion. Put *first things first*, and certainly the most important thing by far is to see that the food is prepared in the proper way, with a maximum of attractiveness for the money expended. Have each single article on the menu as perfect as possible, both in preparation, seasoning, and appearance. This is the chief work of a dietitian. Criticise your chef. Your menus must be prepared according to your ideals, not according to his, unless you heartily approve of his methods. You must set the pace for him. Issue your instructions through him to kitchen help, if you prefer, but insist that he have them carried out.

The attractive preparation of food is nothing short of a real social service. With the very sick it is often their only pleasure; they look forward to their three meals a day, whether their three meals are only liquids or a more elaborate menu, but what a sad disappointment, if on liquids, if the lemonade is not properly flavored, or lukewarm, or the soup is poorly seasoned, etc.! The well need just as careful consideration (aside altogether from the fact that scientists have found the secretion of gastric juice to be directly influenced by the palatability of food) because the three meals, particularly in a hospital, are the most important event in the day's program, and no single individual in the whole institution can render as important a service as a wide-awake dietitian who sees that those three meals go out as perfect in every detail as possible.

A dietitian's success depends almost entirely upon her appreciation of the great importance of the details. The details in a dietitian's work are the big things and no dietitian will be a true success until she fully realizes this. Note:

Is your gravy an attractive brown color? Is it properly seasoned? Does your chef use the flavoring in his meat pans to the best advantage?

Are your soups varied? Is each one *always* tasted and criticized and approved by the dietitian before being served?

Are your vegetables seasoned and as attractive as possible?

Potatoes, particularly, should be carefully watched. Are they mashed well and beaten until like whipped cream—never soggy or heavy or yellow?

Is the porridge of the right consistency and properly salted?

If serving a fruit salad, are all the ingredients in almost uniform sizes? Are the sections of orange diced and the whole as attractive as for the most expensive wards? There is often no difference in cost except a little in supervision and labor. Vary your fruit salads according to the season of the year. Occasionally a small dice of raspberry jelly or, in cherry season, raw cherries look attractive and are well worth while in increased variety.

All custards, blanc manges, bread puddings, cottage puddings, jellies and baked rice can be prepared in the oblong baking dishes and cut into twenty-four, twenty-eight, or thirty-two pieces, according to the size of dish and thickness of the dessert. If serving a large number, the greatest speed is attained if desserts are all cut first, then one man lifts each section with a slice and pushes off with a knife, while an assistant removes the dessert saucers as fast as he can serve. Speed and accuracy can be obtained, and the servings are uniform and attractive. If a sauce is used, a third party can serve it. Particularly in a large institution where a great number have to be served, system and motion study are necessary to save labor and get the best results.

Under no circumstances allow the bookkeeping and accounting end of your work to become the big end. The planning of menus, supervision and regular tasting of everything is of vastly more importance, and the dietitian must never lose sight of this. Bookkeeping is done in between meals because a dietitian cannot remain in the kitchen constantly and she does not need to do so. Accounts are principally for the information of the dietitian. She can list the cost per serving of each article she serves and more intelligently plan her menus. Often the food values and the attractiveness are about equal between two dishes, but one considerably less expensive. A saving of one cent per meal through more efficient selection with a population of 250 people means $7.50 a day, or $2,737.50 saved in a year, and possibly quite as attractive and nourishing dishes, but selected so as to take full advantage of the season of the year and market conditions.

A large part of the routine of the bookkeeping should be done by the pupil dietitian, because in some institutions (depending upon the chef) the dietitian in charge will have to give most of her directions personally. The pupil must be accurate, otherwise she will not be fit to assume control of such an important enterprise later. The chief dietitian analyzes these cost reports, possibly assists on them, but must not be lost in the detail or neglect her more important duties. The dietitian plans the menus and will usually make out the requisition, but the pricing and deduction from stock cards and entry on spread sheets can largely be done by the pupil dietitian, leaving the dietitian in charge more time to analyze results, study prices, and think out improvements to increase efficiency in her department.

If possible, interest some of the local societies or school children in your department so that your dining room can be constantly supplied with either cut flowers, flowering plants, or ferns. The bare appearance is removed from the dining room and quite a different atmosphere created by flowers.

Suggestions for Training Pupil Dietitians

An applicant for training as a pupil dietitian should

have as a foundation a good general education with a junior matriculation or its equivalent, plus two years' work beyond this, one year at least having been devoted exclusively to household science subjects.

She must already have received her full professional training in dietetics and nutrition, food preparation, cookery, invalid cookery, physiology, and other necessary subjects. During her training as a pupil dietitian, she puts this knowledge to practical use, develops her executive ability, studies institutional management, keeping of accounts for a dietary department, planning of work for employees, and everything pertaining to the efficient management of a dietary department.

Dietitian:
- Food expert
  - Teach of food preparation.
  - Diet in health.
  - Diet in disease.
- Trained administrator

The following suggestions deal almost entirely with the pupil's training in administration, because it is assumed that she is already a fully qualified graduate who needs no instruction in the principles of food preparation, but merely to become accustomed to the purchase and preparation of food in large quantities.

The dietitian should train her pupils strictly to observe certain points while in training.

As to professional etiquette, certain things are expected in a hospital and must be strictly observed. Pupils must be businesslike when on duty.

Promptness to a minute in coming on duty and going off is essential, for, unless a pupil is conscientious, how can she criticise employees for laxness?

Pupils must never come on duty unless in uniform, even for a short time.

Pupils must never, during duty hours, write personal letters or read books not directly related to their work. If there is any spare time it is needed to study business efficiency, institutional kitchen equipment, and review diet in disease, etc. Pupils should keep notes upon every branch of their work while in training.

When off duty pupil dietitians are considered graduates and are never subjected to rules like undergraduate nurses, regarding when they retire, etc. They enjoy perfect freedom in every respect when off duty.

The dietitian must thoroughly train her pupil to plan work for others; to do this, list on cards the duties of each class of employees from the chef down. Regarding the cooks, list the class of food that each considers his own special province for the information of the pupil, but definite directions must be given with tact and discretion, depending entirely on the capability of the chef and cooks.

Tabulate duties of kitchen men, storemen, cleaners, waiters, pantry men or dishwashers between and during meals. Each man's card will somewhat resemble the following:

TIME TABLE CLEANER No. 1

7:00– 7:30. Tidy garbage can room and sweep it.
7:30– 8:00. Employees' breakfast.
8:00– 9:00. Assist in the serving room at work to be assigned. (Patients' breakfast.)
9:00–11:30. Special cleaning; see list below.
11:30–12:00. Employees' dinner.
12:00– 1:00. Patients' dinner. Assist in serving room.
1:00– 4:00. Special cleaning; see list below.
4:00– 5:00. Off duty rest hour.
5:00– 5:30. Employees' supper.
5:30– 6:30. Patients' supper. Assist in serving room.
6:30– 7:00. Assist dishwashers until finished, which may be before 7:00 or a few minutes later, depending on population.

Special Cleaning

	9:00–11:30 a. m.	1:00 to 4:00 p. m.
Monday	Clean refrigerators and garbage room.	Scrub the dining room.
Tuesday	Scrub chef's daily storeroom and sergeant's dining room.	Scrub the officers' mess.
Wednesday	Clean kitchen windows.	Off duty 1–5 p. m.
Thursday	Same as Monday.	Scrub the dining room.
Friday	Same as Tuesday.	Scrub the officers' mess.
Saturday	Scrub garbage room and back veranda.	Scrub the dining room.

Train pupils to make out general work plan twice a day. Waiters and dishwashers have their regular duties listed separately so do not need to be on the half daily plan, but cooks, all kitchen men and cleaners should have work planned twice a day. Absence of employees or the weather will often upset the regular schedules. The dietitian is spending so many dollars per day to buy labor; therefore see that the money is spent wisely and used to the best advantage. Employees respect a head of a department who always knows just what they are expected to do and gives directions accordingly.

WORK PLAN FOR HALF-DAY RESEMBLES THE FOLLOWING

Monday Morning

Chef ..... Soup, meat, gravy, salad for officers, etc.
First assistant cook..... Desserts for patients and officers, soft diets.
Second assistant cook.. Vegetables, potatoes and turnips.
Fred ..... Prepare potatoes.
Dick ..... Prepare turnips.
Tom ..... Assist cook with desserts, etc.
Harry ..... Clean garbage can room and refrigerators.
John ..... Clean corridor windows in corridor.
T. J. ..... See regular duties.
Etc., etc., etc.

The duties of the pupil dietitians should also be listed for their guidance. Give each a definite time table; this will vary greatly according to the hospital. If two pupils are in training, possibly their time may be equally divided between the general supervision work and the office and bookkeeping work, either two straight months of each or, if preferred, month about. Pupils' time table will somewhat resemble the following:

PUPILS' TIME TABLE

7:00–7:30. Pupil 1 inspects dining room and kitchens, noting employees absent. She assigns work to new or inexperienced men, tastes coffee, cereal, etc., and sees that everything is satisfactorily under way for breakfast.

Pupil 2 inspects all refrigerators, both chef's and storeman's, noting contents and their condition and cleanliness. She places list of food in refrigerators on dietitian's desk.

7:30–9:00. Pupil 1 supervises the service to the main dining room, tastes everything, watches all servings, sees that hot foods are hot and served on hot plates in proper quantity, as attractively as possible, and with a proper degree of speed.

Pupil 2 supervises the service from the special diet kitchen of trays to the bed patients and sees that all food is properly cooked and in perfect condition.

9:00–11:30. Pupil 1 makes out with the dietitian the general plan of work for the day and the special plan for the morning's work. Assigns work to men, when it varies from their regular time table. Instructs new employees and teaches them. Keeps in touch with every activity in the dietary department. Often the whole morning is taken up in watching, instructing, or supervising the employees in kitchen, storeroom, diet kitchens or dining room, taking silver counts, inventories of equipment, or stock on hand, noting oiling of machinery, etc. Tastes things for the chef and assumes the responsibility of seeing that dinner is served to a minute on time.

Pupil 2, from breakfast until luncheon, spends time on office work and bookkeeping.

11:30–1:00. Pupil 1 supervises service of dining room, much the same as for breakfast.

Pupil 2 supervises diet of bed patients and service to trays.

1:00–1:30. Dinner.

1:30–3:30. Pupil 1 off duty.

Pupil 2 goes in complete charge of employees and office.

3:30–5:30. Pupil 2 goes off duty and Pupil 1 assumes charge of dietary department.

5:30–6:00. Pupil 1 supervises service to dining room.
Pupil 2 supervises service to bed patients.
6:00–6:30. Supper.
6:30–7:00. See all food put away and that night lunches are out and in proper place, etc.

Pupil must become a trained inspector, able to note in a moment anything that is wrong. List all points to be observed in inspecting dining room, serving room, and other rooms. The mere listing will sharpen observation.

Pupil must become familiar with the cost end, also the cost per serving in relation to the protein and caloric value. No matter how brilliant a dietitian is in other ways, if she is not also a good business woman she will not be a success where cost enters into consideration.

Learn the cost accounting and food control system in every detail, also keep records, according to system, outlined under separate cover.

Keep records of all employees, listing: name, address, age, position and length of time in department, rate of pay, health, ability, honesty, temperance, disposition, appearance, reason for leaving, would you re-employ.

Briefly, the pupil should develop self-confidence, decision, and judgment, combined with tact, and study carefully the psychology of directing others, so that as speedily as possible she may become a trained administrator. Note duties of a dietitian and suggestions for dietitians.

The Soldier's Emergency Ration

An interesting collection of odd foods obtained from the soldiers of various countries was recently displayed at the office of the *Christian Herald*, New York, of which that journal gave the following description: "The most ostentatious was Uncle Sam's ration of compressed maize meal with meat farina, and three chocolate bars. This ration is deficient in fats for the reason that even though hermetically sealed, it would become rancid if it carried any more fat. It is not, therefore, a balanced ration; but the container holds enough actual food to keep a soldier from starvation for twenty-four hours. The British troops, as well as the Dutch, have a sausage made of ground peas highly salted, reported to have been originated by the Scotch, and which is put up in regular sausage skins. It is said to be the most sustaining emergency ration known." An Italian butterball consists of unsalted butter encased in milk curd, which is made into a gourd-like shape, and hardens about the butter, keeping it sweet for several years. A Chinese egg was covered with a thick layer of barnyard earth, pressed about it and allowed to dry, and was guaranteed to be at least four years old. "Yet if this egg had ever been in a condition to be unwelcome, it had been thoroughly cured; the albumen was of an ebony blackness, although still soft, like gelatine, and while it did not taste like the eggs we are accustomed to eat for breakfast, neither did it taste as bad as it looked." Tea in various forms was especially interesting. Compressed tablets used by the Russians make it possible to take a "dry cup of tea" by slipping one tablet into the mouth and letting it dissolve slowly. There were also tight bundles of tea and little balls. The black bread of the Turkish forces was in thin discs six or eight inches in diameter. Other delicacies were dried bananas, smoked pears used by the Austrians, dried bamboo from Japan, and rice pressed into long sticks not unlike spaghetti, or tied in little bundles and boxed. Weird objects were dried devilfish and dried oysters impaled on sticks. The skin of a pig's foot and leg was tightly packed with ham and tied; while the spinal cord of the sturgeon is said to be eaten by the Russians, after having been used as a walking stick.

PREVENTION OF BLINDNESS
MATERNITY

A Successful Pay Prenatal Clinic*

BY MRS. WILLIAM LOWELL PUTNAM, Chairman of the Prenatal and Obstetrical Committee of the Women's Municipal League of Boston.

For three years the prenatal and obstetrical committee of the Women's Municipal League of Boston has been carrying on experimental work in providing care, by the most thoroughly trained obstetricians and nurses, for women of moderate means—the class in the community always least well cared for. The rich can afford the best care, and to the poor—a very large number of the poor—it is given free in the clinics of the best hospitals; but the women whose margin of income over outgo is small are terribly apt to get into the hands of those whose knowledge of the proper care to be given in pregnancy and at confinement leaves much to be desired.

In trying to reach women with such a clinic as this, one suffers from the fact that childbearing is such an ancient function. Women have suffered and died in childbirth since the beginning, and they expect to go on giving their lives for the life of the race to the end of time, and so they are content to go to the next-door neighbor for advice about the help they are to be given in their time of need, ignorant that much of the suffering and the greater number of deaths from this natural function are entirely unnecessary. The knowledge of better conditions is like a snowball—the greater it becomes the faster it rolls up, but the effort to start the ball rolling is heart-breaking in its slowness when one realizes the intense need for it.

Throughout our first three years of work the attempt was made to reach as many women as possible, and with this object patients were taken for the small sum which the doctors asked for their services, without making any serious attempt to pay for the nursing service at all, or, indeed, to cover expenses in any way. The doctors were paid either $5 or $10, according to the part of the city in which the clinic was held. The poorer patients live naturally in the poorer parts of the city; the doctors were the same in every case, and have always been found ready to give much more than the small charge could possibly pay for. Even this small sum was further reduced during the second year by using a sliding scale of prices graduated to fit the purses of the patients. Yet, in spite of these efforts to provide what was thought to be within the means of the women of the community, the clinics continued small. The introduction of the sliding scale of prices increased the numbers somewhat, but not to what we felt they should be. At this juncture war was declared, and as our medical director had joined the Medical Reserve Corps, his services were demanded by the government and it became necessary to close the clinics as promptly as possible.

The need of people of moderate means for what such

*This paper contains a part of the report made by the author, Mrs. William Lowell Putnam, to the American Association for the Study and Prevention of Infant Mortality, of which she is president. This portion Mrs. Putnam has kindly recast for THE MODERN HOSPITAL.

a clinic could give them seemed, however, to the experts called together in Washington by the medical division of the Council of National Defense, too great to be neglected, and, therefore, with the help of the staff of the Lying-in Hospital and in affiliation with them, the most important of the clinics of the Women's Municipal League—the one held at the out-patient department of the Peter Bent Brigham Hospital—was reopened in August of the present year.

Certain changes were made in the arrangements. We now employ our own nurse instead of being dependent on the kindness of the Instructive District Nursing Association as heretofore. The patients are delivered in their own homes, as they always were, but the nurse is present at the confinement with the doctor—a dream which we had previously never got beyond dreaming; the patients pay the cost of both doctor and nurse and any clinic charges there may be, which, thanks to the kindness of the Peter Bent Brigham Hospital, are reduced to a minimum. The most immediately interesting development is that we have already more patients coming to the clinic than we had before when they were not paying nearly the expense of their care. These results are exceedingly gratifying, for they go to show that the clinic is meeting a real need, and that we are reaching, through a self-supporting clinic, a larger number of women than were helped while it was conducted as a charity, and that we are really at last getting hold of the great class of people of very moderate means.

The charge made is not high, but we intend it to be high enough to make the work entirely self-supporting, and if we find at the end of the year that we have underestimated the cost we shall raise the charge accordingly, because we believe that self-supporting work is of far more value than that supported by charity, for not only is there no limit to its growth, but it is much more appreciated by those who benefit by it. This charge is $25 a case and payment is required. It covers visits by the patients to the clinic and visits by the nurses to the patients in their homes. At the clinic they are thoroughly examined by the doctors as early in their pregnancy as they apply, and kept track of by visits to their homes by the trained nurse at least once in ten days, and oftener if any suspicious symptoms arise. If the nurse sees any untoward signs in the patient, she is sent in to the clinic again for further examination and care. Among other matters, the proportion between the size of the developing baby and the mother's pelvis is carefully watched, in order that, should Caesarean section be necessary, it may be performed under the most favorable circumstances, etc. The nurse attends the confinement with the doctor, which is not commonly done in out-patient maternity work, but it appears to be one of the things most longed for by the patients. After confinement the doctor and the nurse pay the customary number of after-care visits, until the puerperium is at an end. This very small charge for the amount of service rendered is made possible by the willingness of the doctors to accept the small sum of $10 a case because of their great interest in building up the work. The remaining $15 covers the prenatal visits—the confinement itself, the after-care, and the clinic expenses. If ether is used a small additional charge is made. The materials for the supplies for the confinement which the patient can make herself are sold to her at the wholesale rate, and the nurse shows her how to make them up, after which, through the generosity of the Peter Bent Brigham Hospital, they are sterilized ready for use. If patients apply to us who are contemplating confinement in a private hospital, or whose means seem sufficient to pay more than $25 for the service, the situation is explained to them, and if they want to continue under our care a larger charge is made, the whole of which goes to the doctor, for the nursing service is, we believe, adequately paid for by the regular charges. Patients, also, who want the service of a resident nurse after confinement, can receive, for $15 a week extra, the service of an attendant from the Household Nursing Association, who will be carefully supervised by our nurse and later by the trained nurses of that association should she be kept in attendance after the regular period of postnatal visits by our nurse is ended. These classes of patients are not the ordinary ones, however, for whom the clinic is designed, or who usually apply for care; they are mentioned only to show the flexibility of the plan.

The charge of $25 seems as moderate as it is possible to make it, and we believe that it will meet all expenses when the nurse's time is full. That it does not strike the patients as excessive is indicated by the fact, previously stated, that already more of them are coming in than when the service was more or less free.

The people of moderate means make up the great body of the community, and, if their needs in childbirth, which are now so inadequately met, can be properly provided for, it is not difficult to see what a difference it will make in the vigor of the next generation and in the health of the women of this. It is the demonstration of the possibility of doing this in any city, through trained obstetricians and trained nurses, for a cost within the means of the average family, that we are making, and we are sure it will succeed.

CHILDREN UNDER SCHOOL AGE

A Program of Institutions Necessary for the Welfare of Young Children

Mrs. Leslie Mackenzie, in a recent number of the *Edinburgh Medical Journal*, outlines the measures necessary to supplement existing British institutions for the benefit of children under school age.

The first Notification of Births Act in Great Britain was merely permissive, and asked only for the notification of all living births to the medical officer of health in such towns as chose to adopt the act. In 1915 an extension of the act was adopted, which made its adoption obligatory on every local authority for public health, and required that every birth, alive or still, should be reported. Local Scottish authorities are authorized, with the sanction of the Local Government Board for Scotland, to make such arrangements as they see fit for attending to the health of expectant mothers and nursing mothers and of children under 5 years of age. Mrs. Mackenzie, who is vice-convener of the child welfare committee of the National Union of Women Workers, Scotland, says that these arrangements should include: (1) help and advice to the mother before the birth of the child; (2) skilled assistance at the birth; (3) continuous and skilled supervision of the child until it has reached twelve months of age; (4) medical supervision of all children from 1 to 5 years of age.

To provide for the health of mother and child, before, at, and after the birth, to the end of the child's first year, institutions sufficient to meet the demands of the population should be provided. Such institutions or maternity centers should include:

1. Consultations for expectant mothers with (a) hospital beds for complicated pregnancies; and (b) out-patient clinics for specific illness and common ailments of preg-

nancy. Arrangements may also be made for feeding necessitous women.

2. Lying-in homes for (a) complicated confinements; (b) confinements that would otherwise have to take place in unsuitable homes; and (c) a certain number of beds for post-parturient cases.

3. Baby clinics, or infant consultations, where babies may be regularly weighed and examined, and advice given to the mothers as to the proper treatment of the children.

4. A certain number of beds, or, in large centers, a small hospital, where babies suffering from malnutrition could be studied and treated. Judging from the number of badly nourished and non-thriving infants that one sees brought to baby clinics all over the country, some such properly organized hospital seems an essential part of any adequate scheme.

5. Milk depots, with properly prepared milk for infants of all ages where breast feeding proves impossible.

6. Arrangements for regular home visiting by official and voluntary health visitors, and for adequate reporting.

The organized medical care of children between the ages of 1 and 5 is a new thing, and is more difficult than the medical inspection and supervision of school children, who, being collected in the school during teaching hours, may be easily reached. The Memorandum of the Local Government Board for Scotland recommends local authorities to take cognizance of institutions which, though not in themselves medical, are convenient places for the medical examination of children, and are easily supervised. Among these are day nurseries, kindergartens, and (more recently) play centers for older children, and toddlers' playgrounds. Mrs. Mackenzie is greatly impressed with the value of suitably organized babies' or toddlers' playgrounds in promoting the welfare of puny, neglected children.

With fuller knowledge of the health conditions of all children between 1 and 5 years of age, increased hospital accommodations will become necessary, particularly institutions dealing with so-called "minor" diseases. Schools for mothers, giving instruction in the proper feeding, clothing, and nursing of children, also constitute an important part of the scheme. Lastly, the medical officer of health is to be in a position to supply an accurate medical record of the child up to its school days.

HOSPITAL PEOPLE IN THE NATION'S SERVICE

Hospitals Which Haven Sent Physicians, Nurses, and Employees to Serve Under the Colors

A service flag was unfurled by the Methodist Episcopal Hospital, Brooklyn, N. Y., in recognition of the physicians, nurses and employees of this hospital who have entered the national service. The flag contains 47 stars, but 4 more are to be added.

The Johns Hopkins Hospital publishes in its January bulletin a list of members of the hospital and dispensary staff engaged in military duty comprising 38. Thirty-nine members of the hospital and dispensary staff have resigned during the past year to take up active military duty.

The Presbyterian Hospital, Chicago, has contributed to the national service 35 doctors, 58 nurses (48 to go with base hospital No. 15), 3 orderlies, and 10 employees, making a total of 106. More staff members and employees are to go.

We shall be glad to hear from other hospitals which have unfurled service flags or sent staff members or employees to serve under the colors.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

Sanatorium for Protestant Children at Mouilleau-Arcachon. Jour. de méd. de Bordeaux, 1917, LXXXVIII, No. 3.

This institution was established in 1882 for the benefit of Protestant children of the city of Bordeaux who are predisposed to tuberculosis. The sanatorium is located in a pine forest, only five minutes' walk from the beach. It is open summer and winter. Since its foundation in 1882, 5,389 children have been treated at this sanatorium.

Quinquennial Survey of the Leper Hospitals in Norway, 1911-15. H. P. Lie. Christiania, 1917.

Norway has three leper hospitals, two located at Bergen and one at Strinden, near Trondhjem. The greater part of the lepers come from the northern districts of the country. Thanks to strict isolation, the number of leprosy cases is rapidly decreasing. From 1911 to 1915 the three hospitals together had 264 patients in their care, 108 males and 156 females. Of these one was cured and 98 died.

The New Dispensary for Venereal Diseases in Bordeaux. Jour. de méd. de Bordeaux, 1917, LXXXVIII, No. 7.

The new dispensary is an annex of the dermatological clinic, and consists of a two-story building with a waiting room, a large dressing room, a pharmacy, a glass-inclosed gallery for microscopical examinations, and rooms for the attendants. Consultations are held daily at 5 p. m. for women and men, soldiers and civilians. The city furnishes all medicines gratis, including arsenobenzol, which is manufactured by a French firm and which is very expensive. If any patients need hospitalization, they are housed in the dermatological clinic. During the first five months of this year 1,775 patients have been treated at this dispensary.

History of the Middleburg Hospital. D. Schoute. Nederlandsch Tijdschrt. v. Geneesk, 1917, LXI, pt. 2, No. 1.

In a lengthy article of 64 pages the author gives a history of the hospital of the old city of Middelburg, drawing his facts from the hospital archives, which go back as far as 1343. It is not known when the hospital was founded, but it is first mentioned in the year 1308. The institution had many ups and downs in the course of centuries. At times it possessed large landed estates and was wealthy; at others it struggled with poverty. Isolation of infectious diseases is first mentioned in 1494, when a "pestilence house" was built. The first surgeon visiting the hospital is mentioned in 1465. How great the hospital mortality was in those days is shown by the following facts:

During the month of January, 1584, the Middelburg hospital received 166 patients (85 males, 59 females, and 22 children). Two died on the same day they arrived, 19

in from two to seven days, 15 in from eight to fourteen, 12 in from fourteen to twenty-nine days after entering the hospital. Eleven more of the 166 patients died in the following February. Thus the total mortality was 59, or 35 percent. The buildings have been frequently changed and remodeled. The present hospital dates from 1866. The article is accompanied by a number of illustrations and portraits, among the latter that of the famous Dodonaeus, one of the physicians and benefactors of the hospital.

Vocational Reeducation. A. Nyno. Paris Méd., 1917, VI, No. 49.

The present war has produced an enormous number of cripples in all armies, and all the belligerent countries have established institutions where the crippled men are trained in some trade that will enable them to make a living in spite of their bodily defects. The Belgian government has established such an institution at Port-Villez, to which the author has been attached for more than a year. The most varied trades are taught at this establishment. The institution has numerous and extensive workshops, many of them provided with machinery driven by electric power. The great progress made in the manufacture of artificial limbs enables the most severely crippled men to learn some trade and to make their own living.

The Systematization of the Hospitals of Milan with Reference to the Construction of a New Hospital. Attualita med., 1917, VI, No. 8.

In 1914 the board of hospitals of the city of Milan decided to erect a new large hospital. During the last few years, hospital accommodation in this great city has been very insufficient. During the year 1916 the great Ospedale Maggiore treated 31,974 patients, while during the same year nearly 10,000 patients asking for admission had to be rejected for want of space. While the Ospedale Maggiore with its numerous pavilions is located in the southern part of the city, the new hospital, for which the plans have now been completed, will be erected in the northern part. It will be built on the pavilion plan and contain 1,500 beds. It is also planned to convert a number of pavilions of the old hospital, which is now overcrowded, into pavilions for special diseases.

How the People of the Western Provinces Are Endeavoring to Provide Hospital Accommodation for Their Rural Sick. Canad. Med. Assn. Jour., 1917, VII, No. 9.

For a long time hospital accommodation in the western provinces of Canada has been a pressing problem. Last year the legislature of Saskatchewan passed a law providing that two or more rural communities may cooperate with one or more urban centers for the establishment of a municipal hospital. Each municipality had the power to levy a rate not exceeding two mills on the dollar on all assessable property for hospital purposes. The province of Alberta soon afterward followed this example and passed a similar law, while similar enactments are soon expected in Manitoba and British Columbia. These rural hospitals are of immense benefit, especially in maternity cases and emergency sickness. "We are saving the lives of our women at the small cost of three-quarters of a cent per acre," writes a correspondent from the West.

About four rural municipalities require a hospital of twenty-five beds, besides quarters for the staff. The cost of such an institution is estimated at from $1,200 to $1,500 per bed, or between $35,000 and $40,000. Raised by debentures spread over a term of thirty years and borne by the municipalities in proportion to their assessable value, this expenditure represents a very modest increase to the homesteader's taxes. The expenses for maintenance are also very reasonable, as the Saskatchewan government makes a grant of 50 cents per day for every patient in the hospital. In connection with this movement the commission of public health proposes to establish a system of district nurses, who will visit the county schools, give prenatal instruction to expectant mothers, and act to some extent as a connecting link between the people and the hospitals.

The French Hospital at Jassy, Roumania. Presse méd., Paris, 1917, No. 44.

As soon as Roumania entered the war, France sent a body of physicians, surgeons, and nurses, with a complete hospital equipment, including the necessary apparatus for carrying on Carrel's famous method of wound treatment, to the Danube country. The hospital was first established at Bucharest, with 347 beds, and did a great work. When the Austro-German advance rendered the evacuation of Bucharest necessary, the hospital was removed to Jassy, the ancient capital of Moldavia. Here it was installed in the convent of the Sisters of Sion, with a capacity of 225 beds. The hospital is divided into two distinct divisions—one for septic, the other for aseptic surgery—each with separate operation, sterilization, and dressing rooms. It is under the management of Dr. Sorrel and Dr. Moure. The work and devotion of the French ladies who are doing the nursing service, and two of whom gave up their lives in the work, is beyond all praise.

Heliotherapy in Great Britain—Records of an Experiment. Charlotte Warner, M. D., Brit. Jour. Tuberc., London, 1917, XI, No. 4.

The author shows that heliotherapy is practical in northern climates, though less favored by sunlight. Rollier's method of treating tuberculosis was carried out at the Abergele Sanatorium, situated on the north Welsh coast. This sanatorium fulfills the five essential requirements for heliotherapy—namely, sunlight, dust-free air, a dry soil, shelter, and last, but not least, intelligent, skilled, and conscientious nursing. Rollier's method was somewhat modified and adapted to the shorter British summer. The "acclimatization" period was reduced to about a week, and the initial exposure increased from Rollier's five minutes to ten and even to twenty minutes. Though only twenty children have so far been treated at the institution, the results have been very gratifying, and the author concludes with the remark that "the practice of heliotherapy revolutionizes the routine treatment of the disease."

An Open-Air Industrial Experiment for Tuberculous Cases—The Hairmyres Colony, Lanarkshire. N. Bardswell. Brit. Jour. Tuberc., London, 1917, XI, No. 4.

This institution is designed to give prolonged treatment and training in open-air work to patients in residence in associated sanatoriums who give promise of making a permanent recovery. The colonists will get a course of training in farming, market-gardening, forestry, etc. About 7,000 acres of land have been acquired for this purpose. The buildings now under construction are the following: an administrative block, a male pavilion for 48 patients, a female pavilion for 48 patients, a children's pavilion for 48 patients, an open-air school and an observation pavilion for 12 patients, male and female, besides several farm buildings. The pavilions have two stories and are substantially built, the walls being formed of hollow bricks.

The whole plan of this institution shows that its conception was inspired by breadth of vision and enthusiasm, and that it will undoubtedly play a great role in the prevention and treatment of tuberculosis in the great industrial districts of Scotland.

The Helio-Marine Treatment at the Wallerstein Sanatorium at Arcachion. Jour. de méd. de Bordeaux, 1917, LXXXVIII, No. 6.

Arcachion, on the coast of the Bay of Biscay, is one of the most favored places in the world for the treatment of tuberculosis. Though it lacks the element of altitude, it has the three great advantages of plenty of sunlight throughout the year, of lying on the seashore, and of being on the edge of extensive pine forests. During the last twenty-five years numerous sanatoriums for tuberculous patients have been established in this region, of which the Wallerstein Sanatorium is one of the oldest. It was founded in 1895 by the philanthropic spirit of Madame Wallerstein. It has room for forty children in winter and for fifty in summer. Boys between the ages of 4 and 12 and girls between the ages of 4 and 18 are admitted. The children are exposed to the sunlight in a specially constructed solarium on the beach, where they have at the same time the advantage of the refreshing salt air. Sea baths are combined with heliotherapy, forming a powerful tonic for the patients. On an average, 80 percent of the patients are entirely cured and 20 percent greatly improved.

BOOKS RECEIVED FOR REVIEW

Talks on Obstetrics. By Rae Thornton La Vake, M. D., Instructor in Obstetrics and Gynecology, University of Minnesota; Obstetrician-in-charge of the Out-Patient Obstetric Department of the University of Minnesota. Pp. 157. Cloth, price $1. C. V. Mosby Company, St. Louis, 1917.

The Moseley Memorial Building, Massachusetts General Hospital. Pp. 19, with illustrations. Privately printed, Boston, 1917.

Physiological Chemistry. By C. J. V. Pettibone, Ph. D., Assistant Professor of Physiological Chemistry, Medical School, University of Minnesota, Minneapolis. Pp. 328. Cloth, price $2.50. C. V. Mosby Company, St. Louis, 1917.

Physical Diagnosis. By W. D. Rose, M. D., Lecturer on Physical Diagnosis and Associate Professor of Medicine in the Medical Department of the University of Arkansas. Pp. 499, with 294 illustrations. Cloth, price $4. C. V. Mosby Company, St. Louis, 1917.

Surgery and Diseases of the Mouth and Jaws. By Vilray Papin Blair, A. M., M. D., F. A. C. S., Professor of Oral Surgery in the Washington University Dental School, and Associate in Surgery in the Washington University Medical School. Pp. 733, with 460 illustrations. Third edition. Cloth, price $6. C. V. Mosby Company, St. Louis, 1917.

A Dietary Computer. By Amy Elizabeth Pope, formerly Instructor in the School of Nursing, Presbyterian Hospital; Instructor in the School of Nursing, St. Luke's Hospital, San Francisco, Cal. Pp. 156. Cloth, price $1.25. G. P. Putnam's Sons, New York, 1917.

The Treatment of Infantile Paralysis. By Robert W. Lovett, M. D., John B. and Buckminster Brown Professor of Orthopedic Surgery, Harvard Medical School. Second edition, revised and enlarged. Pp. 171, with 123 illustrations. Cloth, price $1.75 net. P. Blakiston's Son & Co., Philadelphia, 1917.

Plans have been completed for a municipal detention hospital to be erected at Virginia, Minn.

QUERIES AND ANSWERS

Lighting Dark Rooms

To the Editor of THE MODERN HOSPITAL:

One tier of our bathrooms faces on a rather small light-well, only 10 feet square. The upper rooms are fairly light, but those on the first and second floors are very dark and dingy; it seems to us there ought to be some way to light these rooms up without using current all day.

A CALIFORNIA HOSPITAL.

Of course, the best way would have been to face this light-well with white glazed brick when the building was erected; it is too late for that now. Three coats of white enamel would light the rooms nicely; you could have this washed every six months and renewed every two or three years. A single coat of whitewash, made after the government formula, will be cheaper and quite effective. You can renew this every spring and fall.

Local Buying at a Loss

To the Editor of THE MODERN HOSPITAL:

In our attempts to economize in our hospital we are very much handicapped by a ruling of our board that all our buying must be done through local dealers. We pay not only a legitimate percentage for handling, but practically retail prices for everything. I have made several attempts to buy where I can do much better, but each time seem to have offended someone who has made some donation to the hospital, or is connected with our board of directors. What could I do to help this situation?

A SMALL HOSPITAL SUPERINTENDENT.

There is an ugly name for the waste of public money by giving patronage at the expense of a hospital's finances. If your board consists of fair-minded business men, tell them you know that a reasonable amount of buying should be done locally, and your trades people are entitled to it, but show them how much a year, approximately, this method costs the hospital, and how much you could save for needed equipment by getting your big orders from the wholesaler and producer. We are sure you will get results. Let us hear how you come out on this question.

The Problem of the Special Nurse and the Diet Kitchen

To the Editor of THE MODERN HOSPITAL:

Please suggest a remedy for a condition which hinders efficiency and even ordinary cleanliness in one part of our hospital. We have a hospital of fifty beds which has no training school, and deals largely with the better type of private patients, and we average between twenty and thirty graduate nurses in the house at one time. These special nurses at first prepared their trays and between-meal nourishments in the general tray room, and the dietitian's nerves were often on edge, the tray-room maid usually out of sorts, and the general duty nurses indignant, because of the apparently unnecessary demands of the special nurses, and the friction and untidiness resulting. The special nurses themselves were not satisfied, and garbled reports concerning our food and service reached me through the doctors and patients.

We therfore tried the plan of giving over to the gradu-

ate specials a suite composed of a diet kitchen for the preparation of their special diets and between-meal nourishments, and a rest room and bath room for themselves. This arrangement has not proved much more satisfactory than the first, owing, I think, largely to the fact that we cannot spare a nurse for duty here to be responsible for the cleanliness and order of the place and to control the use of supplies.

The engineer is called frequently to pump out the stopped-up sink or toilet, and recently the dietitian came to me almost in tears to ask me to look at the special nurses' rooms. The bath room tub bore evidence of the last bather, the furniture of the rest room was decorated with drying lingerie, the table still contained the remains of the last night's ice cream treat, and the diet kitchen reminded one more of the kitchen of a tenement than a room in a well-supervised hospital.

We would be very glad to hear of any plan used by other hospitals which have a special nurses' diet kitchen and provision made for special nurses when off duty.

A PERPLEXED SUPERINTENDENT.

We know of one eastern hospital that suffered long from the annoyances you mention, whose superintendent worked out the following plan: A room directly opposite and in plain sight of the supervising nurse's desk was chosen for the special diet kitchen. This was divided into two distinct parts by a long store counter and a gate which can be locked. All the equipment and supplies are kept behind the counter and in charge of a maid. Each special nurse, when she reports for her case, receives from the maid a small tray, containing two drinking glasses, two spoons, a teacup and saucer, and bouillon cup, and signs for them.

All milk, orange and lemon juice, and iced water are kept in a sectional thermos, and all nourishments are made by the maid on duty, passed over the counter, and signed for by the special nurse. We understand that the saving in milk, fruit juices, ice, and all other supplies, the efficiency secured, and the general comfort to everyone concerned, more than balances the extra amount on the payroll paid to the maid in the diet kitchen.

There is a rest room, with lockers and bath room, in the basement for the special nurses, the key to this room being kept in the office, and is signed for by each nurse who uses it. In this way it is easy to know who abuses the privileges extended.

We would be glad to hear from any other hospitals that have worked out the problem.

As to Making New Connections

To the Editor of THE MODERN HOSPITAL:

I am offered the superintendent's position in a small hospital at —, in the state of —, and should like, if possible, to obtain some information as to how it ranks with other hospitals of that size and character, and something of its working conditions.

A REGISTERED NURSE.

We have no definite information in regard to the hospital you mention in your letter, but we think you are wise to investigate thoroughly as to conditions before connecting yourself with any hospital at such a distance from your home. We suggest that you write to the secretary of the state nurses' association in that state, and, as you are a registered graduate, she will undoubtedly give you the information you require.

Buying Blankets and Linen at Current Prices

To the Editor of THE MODERN HOSPITAL:

When our hospital was first built, about five years ago, it was thoroughly equipped with the best grade of woolen blankets, linen towels, and dresser covers, and the stock bought at the time has lasted until the present time. To replace these in the same quality at present is almost impossible. Have you any suggestions that might help us?

A MIDDLE WEST HOSPITAL.

Blankets containing only a percentage of wool, and, properly laundered, are giving good service in hospitals, institutions, and hotels. Much depends on the laundering of these under proper conditions. It pays any average hospital to have the best blankets washed by hand in good neutral soap in water of a moderate temperature. For private rooms, blankets of dull blue and brown designs have given better service than the older type having entirely white ground striped with colors at the ends. The standard gray blankets work out well for wards and for wheeled chairs and stretcher carts. Cotton is at present taking the place of linen wherever possible. Linen toweling containing only a percentage of linen will have to take the place of linen until trade conditions are more normal, and the established linen houses which make a business of supplying institutions and hotels are selling well-made and attractive substitutes to meet the demand.

Landscape Gardening for the Institution

To the Editor of THE MODERN HOSPITAL:

We have had for some time a certain amount of an endowment fund set aside for landscape gardening, our hospital grounds are bare and uninviting at present, but considerable discussion is going on as to whether we should in these strenuous times spend the money for that purpose. What would you advise?

AN IOWA HOSPITAL.

If you can spend this money without denying your hospital any real present need in other equipment, by all means go ahead with your gardening. It will add not only to the beauty and "balance" of your hospital, but to the cheerfulness of everyone who enters or leaves your building.

Amount Required for Permanent Endowment of Bed

To the Editor of THE MODERN HOSPITAL:

Will you kindly give me some information concerning the amount of money required for the permanent endowment of a bed in a small hospital? We have been asked to name a price, and we have no idea how to go about stating such price. How is a thing like this worked out? On what basis could it be figured? I inclose a booklet which will give you some idea of the size of our hospital. Our town has about 25,000 population.

INQUIRER.

Your query opens up a very large field for discussion. The proper way to consider this would be on a cost basis or a basis that any sound business organization would use.

Assuming, as a basis for figuring, that the cost per patient per day in your institution is $3, and assuming that you will have an 80 percent occupancy of your beds, or a total of 292 patient days for that bed, the actual cost of operating that bed for the year is $876. Using 6 percent as your investment return, it would require $14,600 to yield $876 per year. Therefore, if you were figuring on securing from your endowment the actual amount necessary to operate the bed, you would require an endowment of $14,600. This, however, is not always possible, and it is doubtful if it could be used as a set basis for the endowment of beds. Institutions permit yearly endowments for as low as $50 and as high as $3,000. It would seem that $5,000 would be a minimum sum for dedicating a bed in perpetuity. Local conditions govern to a very large extent.

Surgical Gauze, Fumigation, and Signal System

To the Editor of THE MODERN HOSPITAL:

Would be very glad if you would answer the following:

1. A municipal hospital in a city of about 60,000, with 84 beds, two-thirds of which are a fairly active surgical service, uses 40,000 yards of a certain gauze a year, for which it pays 2 cents per yard.

a. Is that an excessive amount of gauze?

b. Can such used gauze be profitably reclaimed—i. e., washed, sorted, sterilized, and used over again?

c. Does the quality of the gauze make great difference in the possibility of reclaiming it?

d. If it can be done and is worth while, where can be found the best method or methods?

2. What is the practice of the better hospitals in regard to fumigation? Is there any sense, sanitary or esthetic, in fumigating each private room after every occupancy of whatever nature? Is not the fumigation as usually carried out a worthless procedure?

3. Is there any signal system—patients' call system—on the market with the following features? When the patient pushes the button in the end of the signal cord, a bell or buzzer is sounded during the time that the button is pushed or held down, and a light is shown over the patient's bed that remains lighted until released by a nurse pushing the button in the wall by the patient's bed. The patient may sound the bell or buzzer any number of times by pushing the signal cord button, but the light is not affected except by release in the wall. Any group of signal lights may be connected with a pilot light, located at any convenient place. This pilot light is shown when any one of the signal lights with which it is connected is lighted, but does not thereby affect any other in the group. Both pilot and signal lights are released only at the bedside. Any number of patients in the group may signal—bell or buzzer sounded and a light shown over the bed, whether previous signals have been released or not.

M. D.

1 a. In an 84-bed hospital with an 80 percent occupancy you should at all times have approximately 67 patients, of which 45 would be, by your statement, surgical. Forty patients will yield yearly patient days of 16,425. You are by your own statement using in excess of two yards per patient per day, figuring that your medical cases will use some gauze. One and three-quarters of a yard is a very liberal allowance.

1 b. This amount of gauze can unquestionably be reclaimed to advantage. Especially is this true if you can do it without additional help. The effort required is comparatively small.

1 c. It is recommended that not less than 20x24-mesh gauze be used, as a lighter gauze does not wash to advantage.

1 d. The following is given as a method of reclaiming dressings: All soiled dressings are collected in paper or cloth bags, sent to the laundry, and placed in a mesh bag. Soak over night in cold water in zinc-lined tank or washers. First thing in the morning put into washer, and rinse with cold water for ten minutes. Hot wash with soda and soap for three-quarters of an hour and rinse with hot water. Turn on steam and boil for three-quarters of an hour. Put in extractor and send moist to dressing room.

2. Several national authorities are agreed that fumigation is absolutely worthless under practically all conditions. It is not thought that this is the best possible procedure for hospitals. Unquestionably each bed, whether in private pavilion or ward, should be taken down entirely, cleaned, aired, and made up fresh for each patient. In virulent infections and in some contagious diseases, mattress and pillows should be steam sterilized if possible, then aired for at least twenty-four hours, and the rubber sheeting and bed sterilized with a 2½-percent formalin.

3. Two of the signal systems advertised in THE MODERN HOSPITAL will give you all of the features you desire. There is some question as to whether the intermittent sounding of the buzzer is desirable. It might be better to have a continuous sounding of the buzzer until such time as the call is answered. The arrangements of the pilot lights are simply a matter of wiring. You not only can have the pilot light answered at one particular point, but you can have it at three or four points—for instance, at the head nurse's room, utility room, ward kitchen, or any other place you desire.

THE NAVY NEEDS LENSES

Assistant Secretary Calls on Medical Men and Hospitals for Binoculars, Spy Glasses, and Telescopes

Assistant Secretary of the Navy Roosevelt has appealed to THE MODERN HOSPITAL to help the navy secure the use of binoculars, spy glasses, and telescopes owned by medical men and the hospitals. Those who have such articles, we know, will be greatly pleased at the honor of helping to furnish the "eyes of the navy." Please read Mr. Roosevelt's letter, and those who have any of the articles required please send them in at once. Following is Secretary Roosevelt's letter:

To the Editor of THE MODERN HOSPITAL:

"The navy is still in urgent need of binoculars, spy glasses, and telescopes. The use of the submarine has so changed naval warfare that more 'eyes' are needed on every ship in order that a constant and efficient lookout may be maintained. Sextants and chronometers are also urgently required.

"Heretofore the United States has been obliged to rely almost entirely on foreign countries for its supply of such articles. These channels of supply are now closed, and, as no stock is on hand in this country to meet the present emergency, it has become necessary to appeal to the patriotism of private owners, to furnish "eyes for the navy."

"Several weeks ago an appeal was made through the daily press, resulting in the receipt of over 3,000 glasses of various kinds, the great majority of which has proved satisfactory for naval use. *This number, however, is wholly insufficient, and the navy needs many thousands more.* May I, therefore, ask your cooperation with the navy to impress on your subscribers, either editorially, pictorially, or in display, by announcing, in addition to the above general statement, the following salient features in connection with the navy's call:

"'All articles should be securely tagged, giving the name and address of the donor, and forwarded by mail or express to the Hon. Franklin D. Roosevelt, Assistant Secretary of the Navy, care of Naval Observatory, Washington, D. C., so that they may be acknowledged by him.

"'Articles not suitable for naval use will be returned to the sender. Those accepted will be keyed, so that the name and address of the donor will be permanently recorded at the Navy Department, and every effort will be made to return them, with added historic interest, at the termination of the war. It is, of course, impossible to guarantee them against damage or loss.

"'As the Government cannot, under the law, accept service or material without making some payment therefor, $1 will be paid for each article accepted, which sum will constitute the rental price, or, in the event of loss, the purchase price, of such article.'

"Toward the end of January it is proposed to distribute throughout the country posters making an appeal to fill this want of the navy.

"As this is a matter which depends entirely for its success on publicity, I very much hope that you will feel inclined to help the navy at this time by assisting in any way that lies within your power."

Very sincerely yours,

FRANKLIN D. ROOSEVELT,
Assistant Secretary of the Navy.

A small tuberculosis sanatorium will be erected by the city of Houston, Tex., in the near future.

LETTERS TO THE EDITOR

The Difficulties of a Small-Hospital Superintendent

To the Editor of THE MODERN HOSPITAL:

After reading in THE MODERN HOSPITAL a request for letters or articles on the problems of a small hospital, I thought I would give some of my experiences as superintendent of a hospital of sixty-four beds.

When, in December, 1915, I was taken through the hospital prior to my accepting the position, while I saw superficially that the hospital was in a run-down condition, I certainly did not realize what I was getting into. To tell the truth, it appealed to me. As a nurse, I always liked to take care of the hardest and sickest patients, as well as to work for the crankiest doctors, for that kept me on my mettle. But this was a different proposition; however, ignorance is bliss.

I took formal control of the hospital January 1, 1916, and found there were private as well as city patients, and all diseases except contagious were taken in.

The medical staff consisted of twelve men, eight of the old school and four homeopaths. All city cases were turned over to the staff, but the system was the old, old one, by rotation. The man who was a surgeon in May was a medical man in September, and vice versa. The governing board consisted of twelve women, each one of them splendid in her own home life and community spirit, but sadly lacking in knowledge of the management of a modern hospital, in consequence of which they were at the mercy of their superintendent.

The finances were at the lowest ebb, and, instead of looking into the management, the members of the board preached economy. The result of the preaching was that when I came and began to search for the cause of the trouble—for I believe that to find a cure for disease one must first find the origin of it—the facts we found in brief were these:

The hospital could accommodate sixty-four patients, but the daily average was from twenty-eight to thirty. It was supposed to have a training school, but I found four pupils only; the rest were graduate nurses. I found no curriculum or teaching system. Most of the work, as in all small hospitals, was surgery, yet the technic in the operating room was the most primitive. A tray could not be found in the entire hospital; ward baskets were used instead of dressing trays. Thermometer, hypodermic, medicine and catheterization trays were things unknown. The ward patients were fed from agate dishes. The drug room, with the exception of patent medicine, was practically empty. Was it any wonder that physicians stopped sending in their patients? The store room was still worse. Two boxes of soap of one hundred pieces each were found, and other supplies were correspondingly low.

There was no system of checking household supplies for each floor. I asked the housekeeper how many boxes of matches she gave out to a floor, and she informed me "about a package a week," or, in other words, twelve boxes to a floor of twelve patients. When I told her that three or four boxes were the most that should be used she looked at me as though she thought I must have lost my reason. I am glad to say that I have demonstrated my contention by now.

The walls of the wards and rooms were of a steel-gray color, and the woodwork a dark walnut, so that the hospital gloom was enhanced. The wooden floors were scrubbed twice a week with soap and soda, and as a result most of them were peeling. The poor wood was allowed to die for the want of a little oil and varnish.

Although the town belongs to Greater New York and is only twenty-five minutes from our great metropolis, the spirit and mode of life is very provincial. The woman who sends in a glass of jelly or who belongs to one of the many auxiliaries that costs her fifteen cents a month thinks that the hospital and the superintendent belong to her. The contractor who built the hospital has been in the habit of doing all the necessary repairs; his son had charge of the electrical work; and the plumber also came through him. They are all supposed to be supporters of the hospital; in fact, they belong to a Men's League with dues of $5 a year, yet the prices they charged were anything but friendly. For instance, one day when the contractor's man was in the house doing some work I asked him to repair a window sash that had been reported broken, and when the bill came in the items read, "35 cents for cord, $5 for labor."

We wanted to put in a sink in a room we were fitting up as an emergency ward. We sent for the plumber to give us an estimate. After he left, the ambulance chauffeur told me that if I would buy the material he would put it in for me, so I told him to go ahead, gave him an order to a wholesale house and dropped the subject from my mind. Four days later he came in the office to tell me that while he was at work on the sink the contractor came in, saw what he was doing, and told him he had no business to do it as it was another man's work. Needless to say, some words passed. A day or so later he found he was short a few feet of pipe and sent the man around for it. They refused to sell it to him on the plea that he was not a licensed plumber. To confirm my suspicion I sent the man to the same store, but gave him cash and he bought the pipe. This instance will give, I hope, the idea of the conditions a superintendent of a small hospital is working under, and find the best way to combat them, and yet not to antagonize the public.

It is two years since I came here. We have painted twenty-five rooms, renovated and painted the operating room, bought new sterilizers and instruments, covered the worst floors with linoleum, oiled and polished the others, removed the bed from the delivery room, had walls painted, linoleum and delivery table put in, fitted up a nursery modeled after the Sloane Maternity, removed the children's ward from the maternity floor, painted five wards and two other rooms, reorganized the training school, and have an assistant who has charge of the teaching. We have now (January) twenty pupils in the school and two have graduated. Our daily average is forty-nine to fifty patients; our store room and supply room are anything but empty, and the $2,500 debt which I found when I came has been long since paid up. We have installed a complete Wappler x-ray machine, which has been paid for by small donations, and which has proved a good asset to the hospital.

The public is beginning to realize that a hospital is part of our community life, as the church, or the theater. To the church we go for our spiritual needs, to the theater we go for amusement, and to the hospital we go for our physical needs.

Not to have a hospital with sunshine and cheer, clean and wholesome food, and, above all, efficient nursing and modern methods to combat the diseases which befall a city is a disgrace to that city.

I hope this short account will not be taken in the spirit of boasting, it is far from my thoughts. All I want is to give some idea of the many problems which a small-hospital superintendent is called upon to deal with.

R. A. S.

NEW INSTRUMENTS AND EQUIPMENT

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GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Autocall Calling Service

The Autocall automatic calling service has already been installed in many hospitals and sanatoriums and consequently is no longer looked upon as a device suitable only for factories and mercantile institutions.

If the executive is absent from his office, or if an intern or visiting physician is wanted on the telephone, for either an inside or outside call, it may be known that he is in the building, but nobody knows exactly where he can be found. Without the automatic calling device the telephone operator will have to call up all of the branch telephones in the building where the person desired is likely to be. Each of these calls requires the time of the operator, and it also takes the time of the various people who answer the tele-

Autocall automatic calling service.

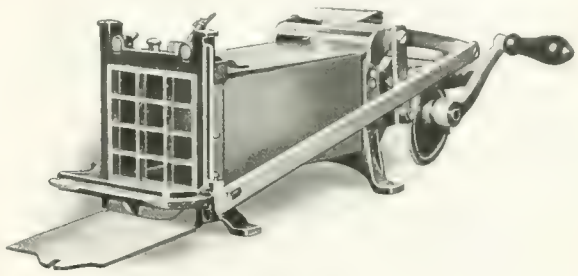
phones. Often patients are disturbed and in some cases surgeons may be disturbed at a critical moment while engaged in performing an emergency operation.

Where the automatic calling service is installed, all of these obnoxious conditions are done away with, and the method of locating a person wanted is as follows: If the individual called does not instantly respond when his telephone is rung, the operator turns to the autocall sending station, placed conveniently near the switchboard, starts the autocall service by a simple operation and the number of the person desired is sounded by soft-toned bells or by light signals conveniently located throughout the building. When the intern or surgeon hears his number or sees it flashed by the lights, he steps to the nearest telephone and receives the message, or is connected with the person calling, in cas it happens to be an outside call.

Automatic Individual Butter-Cutter

Automatic butter-cutting machines have for some years been extensively used in the larger hotels and restaurants, but they now have been taken up by many institutions. They save a great deal of time, and the hospitals that use them also report a considerable saving in the quantity of butter consumed.

The automatic butter-cutter, which is illustrated here, is especially adapted for cutting tub butter into individual patties ready to serve. This machine is of simple construction and is operated in the following manner: The butter is put into the machine as it comes from the tub. The handle is then turned, pressing the butter into a solid block, after which it is forced through the cutting die, the



Glidden automatic individual butter cutter.

full face of patties being cut off by a wire attached to the yoke, which works up and down in front of the machine. The force that accomplishes all this is obtained by a plunger or face rack which runs in the trough of the machine. The racks are gauged with teeth to cut ⅜-inch and ½-inch. All parts work automatically by simply turning the crank. The machine cuts neat patties of various sizes, ranging from 26 to 90 pieces to the pound. Noncorrosive metal is used in the construction, and the apparatus can be kept clean and sanitary.

Fracture Extension Apparatus

This apparatus was designed by Dr. H. Lemon, of Milwaukee, Wis. In developing the device illustrated below, Dr. Lemon had in mind an apparatus which would serve equally well in his emergency railroad accident service and in general hospital work. It is well known that the successful treatment of fractures of limbs offers many difficulties. To set broken bones in proper position requires the employment of traction that will overcome the

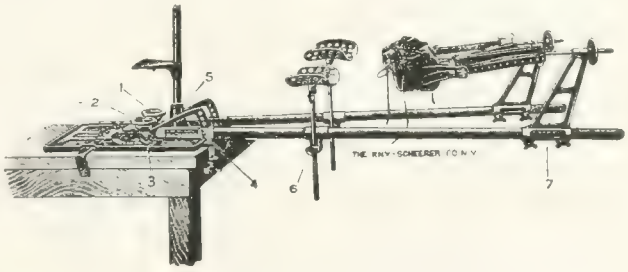


Fig. 1. Lemon traction apparatus.

power muscular contractions sufficiently to permit free manipulation of the serrated ends. This requires the stretching of the muscle beyond the normal, and the retaining of the traction until the plaster cast has been applied and set. Assistants depending upon their own strength soon tire, consequently the force of the pull is inconstant; the bones are permitted to override, and, if this occurs, a poorly set fracture is the result.

The apparatus depends upon substantial screws to give the traction necessary to separate the ends of the broken bones, thus placing at the command of the surgeon great power at the cost of little effort. Furthermore, it enables the surgeon to apply his dressings without interference.

The application of Lane or Sherman bone plates in fractures, as well as the technic employed by Drs. Albee, Magnuson, and others in the treatment of fractures, is greatly facilitated by this device.

For the method of securing leg extension, see Fig. 1. The base plate may be set on any table and secured by means of the adjustable clamps at the sides and ends. The extension bars are attached to the threaded posts (1 and

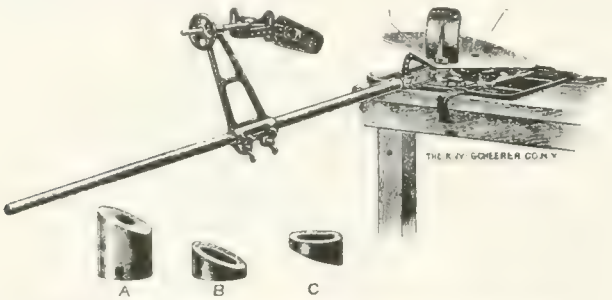


Fig. 2. Lemon traction apparatus set for lateral extension.

2), being secured by means of the large wheel screws. Large thumb pins (3) hold the bars in the lateral, and the large screw pins (4) in the vertical position. The telescopic post with the pelvic support is placed in the center socket (5), the carrying case or pillows being used to support the head and shoulders.

To secure lateral extension as shown in Fig. 2, the patient's position on the plate is to be reversed with the base plate on a table secured as described above, but only one extension bar is attached, either right or left, as may be required, and turned at right angles to the table.

Gas-Operated Isolator Incinerators

Two new types of gas-operated incinerators that will be of interest to hospital authorities have been put on the market recently by the Buffalo Co-Operative Stove Co. One of these devices is termed a "pot" type incinerator, and is illustrated in Fig. 1.

A tilting container or pot of peculiar design is installed in the interior of the apparatus. The upper rim level of the pot is slightly below the hopper receiving door of the apparatus. Gas burners are situated beneath the pot or container. When lighted, the flame impinges on the bottom of the pot and in spreading completely envelopes it, passing upward through spaced cut-outs in the upper rim to the chimney outlet. The pot is constructed so that a lobe in the bottom receives the brunt of the heat and distributes it evenly to the surrounding metal, so expansion and contraction are equalized and the destructive influence of heat resisted. On account of the pot form of construction, liquid in quantity may be disposed of with no escape of fluid into the ash pit. This type incinerator is claimed by the manufacturers to be particularly adapted for use in maternity and tuberculosis wards, for disposal of cloths, sputum cups, etc. In addition, dressings, bandages, fruit peelings, wilted flowers, etc. can be economically consumed in this type of destroyer, and the refuse may be mixed indiscriminately.

The other type of incinerator, illustrated in Fig. 2, is designed for green-garbage disposal requirements. The interior burner construction of this type comprises a series of three perforated cones, one a large center cone, and two smaller cones, one on each side of the center cone. These cones are so constructed in their lower portion that separate grates are not required. They are a combination burner and grate, the center cone acting as a dryer. Air of the temperature of the room enters the isolator through the lower ash pit door and is passed through the center cone in its travel to the chimney outlet. The center of the garbage mass is thus prepared for quick, economical incineration.

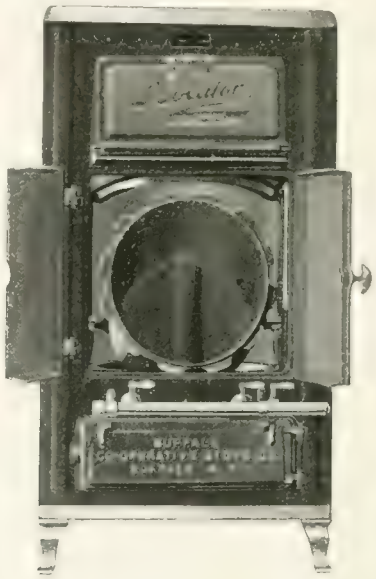


Fig. 1. Gas-operated "pot" type incinerator.

During the burning, the flame is directed directly into the garbage mass, the perforations in the cone burners acting as escape ports for the flame. By means of the plurality of burners, the flame may be directed into any part of the garbage, as one or more burners may be turned

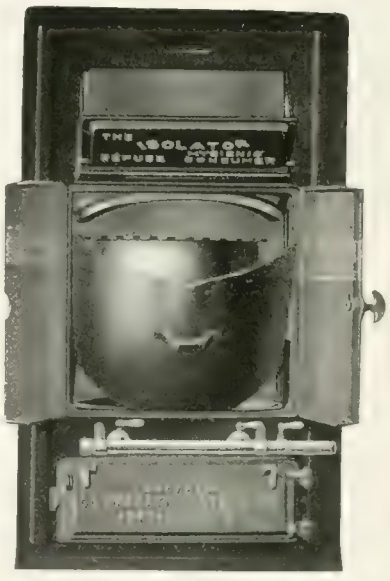


Fig. 2. Gas-operated incinerator for disposal of green garbage, etc.

off at will, permitting the remaining burner to direct its flame where it serves to best advantage in consuming the refuse; thus the economy of this arrangement is obvious.

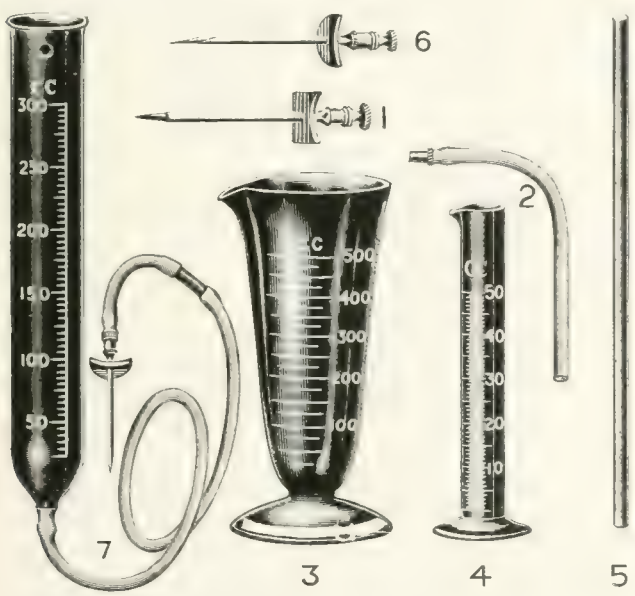
Both types of apparatus are made in two sizes, and each is equipped with an automatic gas control clock. This device has to be set before the gas can enter the burners, and it automatically shuts off the gas at the expiration of the time for which it has been set, thus constituting an important factor for safety. The isolator incinerators are

so constructed that any part can be removed or replaced by a layman, by means of a screwdriver and a pair of pinchers. Full descriptive literature concerning construction in detail and scientific process of incineration, will be furnished by the manufacturers on request.

Technic and Equipment for Blood Transfusion by the Citrate Method

Transfusion of large quantities of blood, 700 to 1,000 c.c., or even larger quantities, by the citrate method has been made possible by the extensive experiments carried on by Dr. Richard Lewisohn, of New York, and it has already become very popular in this country. Dr. Lewisohn has not devised any special apparatus for this technic, but has made use of equipment already on hand and useful for other purposes. This fact, however, does not seem to be understood, and instrument houses frequently receive inquiries concerning the special equipment necessary for practicing this technic.

The technic of the citrate method, as described by Dr. Lewisohn, is as follows: the donor is put on a table, a tourniquet applied to the arm and the vein punctured with a canula which is supplied with a pointed obturator, connector, and tubing (Figs. 1, 2). The blood is received in a sterile graduated glass jar of 500 c.c. capacity, containing 25 c.c. of a 2-percent sterile solution of sodium citrate.



Equipment used for blood transfusion by the citrate method. Figs. 1, 2, Kaliski canula, connector, and tubing for the purpose of drawing the blood from the donor's vein; Fig. 3, graduated glass jar, capacity 500 c.c., for receiving donor's blood; Fig. 4, graduated glass cylinder, capacity 50 c.c., for holding citrate solution; Fig. 5, glass stirring rod; Fig. 6, Unger canula for injection; Fig. 7, salvarsan glass jar, capacity 300 c.c., used in connection with Unger canula for injecting blood in recipient's vein.

While the blood is running into the graduated glass receptacle (Fig. 3), it is well mixed with the citrate solution by means of a glass rod (Fig. 5). After 250 c.c. of blood have been taken, another 25 c.c. of citrate solution are added from cylinder jar (Fig. 4). If less than 500 c.c. of blood are taken (i. e., in infants), the amount of citrate solution added to the blood is reduced accordingly. In cases in which more than 500 c.c. of blood are to be taken, a second glass container of 500 c.c. capacity is kept ready to be used according to the manner described above. The graduated jar containing the blood is then put aside and covered with a sterile towel to safeguard against contamination. It has not been found necessary to immerse the jar in hot water or surround it with an asbestos cover. The blood is then taken either into the recipient's room or the recipient is brought into the operating room. It is considered a great advantage that this method does not require donor and recipient to be in the same room, as this lessens the physical shock of the whole procedure for the patient; in fact, the donor's blood may be collected in the laboratory or office and carried to the patient's bedside. It will thus be seen that there is absolutely no connection between the donor and recipient; consequently the donor is safeguarded against contagion of any disease with which the patient may be afflicted.

The recipient's vein is punctured or exposed by a small incision. The canula (Fig. 6) is introduced and attached to the salvarsan flask (Fig. 7). It is advisable to fill the rubber tubing connections between flask and canula with some saline solution, so as to prevent air from getting into the circulation. After the connection is made, blood is poured into the salvarsan apparatus. In order to prevent sudden overloading of the circulation, it is advisable (especially in larger transfusions) to stop the flow of blood from time to time by compressing the rubber tubing. After the blood has been injected, the canula is removed and the transfusion is ended. The whole procedure can be performed with the greatest ease and without any hurry, because citrated blood, as has been demonstrated beyond doubt, can be kept for two or three days in a glass jar without the danger of clotting.

Dr. Lewisohn states that it is immaterial what size needle is used for the injection of the blood, but it is of the greatest importance, to insure success for the citrate method, that a large size canula be used in taking the donor's blood. He prefers puncturing the vein with a Kaliski needle (Fig. 1) (gauge 11, B. & S.), and one of the same type but of somewhat smaller size in children. For injection he uses the Unger needle (Fig. 6). Other types of needles, however, are applicable if those mentioned are not obtainable.

Universal Electrically Driven Bone Surgery Equipment with Instantaneous Stopping Device

Quite a variety of electrically operated bone surgery engines have been offered to the surgical profession during the past few years, and a number of them have been described and illustrated in these columns. Each one of these engines has some particular feature for which superiority is claimed over others of a similar type. All of the earlier types of engines were arranged so that the burr (which was for many years the only instrument used in connection with electric motors) was inserted into a straight handpiece and then actuated by means of a light cable connected to the shaft of the motor. As long as such burrs were used only in dental work and for trimming the edges of bone in mastoid work this method was satisfactory.

Very soon, however, general surgeons became interested in the possibilities of the use of electrically driven engines for the purpose of opening the skull, cutting grafts for repair of fractures, inlays of ivory plates and screws, spinal transplants, etc. It was soon found, however, that in order to actuate successfully either single or twin circular saws, greater power was required than these light steel cables could stand, because as soon as the saw took hold in the bone the cable would buckle, and sometimes it would come to grief.

Drs. Hartley and Kenyon seem to have been the first to employ successfully a small motor which was connected

directly to the electric light socket by means of a conducting cord. They also inserted the operating instruments, such as burrs, saws, cutters, etc., into a chuck or automatic clutch connected to the shaft of the motor. This method has been found very serviceable by most surgeons for such work as cutting grafts from the tibia, etc., but is not suitable in operations on the skull or in mastoid or

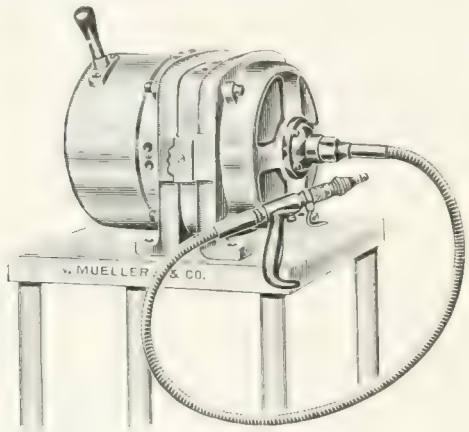


Fig. 1. Universal electrically driven bone surgery motor, cable and handpiece.

sinus work, because it is next to impossible to handle a motor weighing anywhere from seven to ten pounds and do accurate work in a cavity such as is necessary in antrum, frontal sinus or mastoid operations.

Another most important consideration when using a burr or saw is the possibility of stopping the cutting tool

Fig. 2. Round and oblong burrs for use in mastoid and general bone work.

immediately in case of an accident such as catching a sponge or towel with the burr or saw, not a rare occurrence. In practically all the operating engines put before the profession heretofore the only means of cutting off power is the foot switch, operated by the surgeon himself. But even with this device it is not possible to stop a burr or saw instantly, since even with the power shut off the

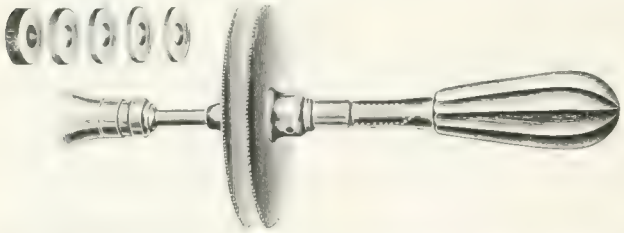


Fig. 3. Magnuson-Albee twin saw and accessories, for the purpose of cutting parallel grafts from the tibia, etc. One saw can be removed and the outfit used with one blade only.

motor will continue to revolve for some seconds, and much damage may be done before it can be brought to a full stop.

In order to overcome this very serious fault on all electrically driven apparatus, Dr. Max Halle, of Berlin, some years ago, had a handpiece constructed which was so arranged that the cable attached to the shaft of the motor would pick up and actuate the burr only when the operator put his finger on the trigger which is attached to the handpiece. The moment the trigger is released the burr will stop, and will not even make another half turn.

The Halle handpiece is now being made in this country, and it has been enlarged and strengthened so that not only sinus or mastoid burrs but all the different devices used in modern bone surgery, such as single or twin saws, dowel shapers, trephines, spiral osteotomes, etc., can be used successfully in connection with the apparatus. In order to overcome the buckling of the cable, which was such an annoying feature in the earlier types of engines,

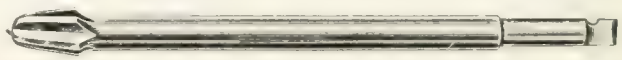


Fig. 4. Albee taper fraise for drilling hole for insertion of dowels in fracture of hip joint.

the cable used in this equipment is several times the size and strength of those formerly used, and is covered by a spiral metal sterilizable sheath instead of a woven cloth cover.

The motor supplied with this equipment is a machine which has been wound especially for this class of work, and which will develop a full one-fourth horsepower without the use of reducing gears, etc. The motor body is entirely enclosed, doing away with any possibility of accidental shock to surgeon or assistants in touching parts of the motor which carry the current. Those who have had the experience of accidentally touching brush-holders, binding posts or other parts of a motor in the operating room will appreciate this feature. As a rule the floors

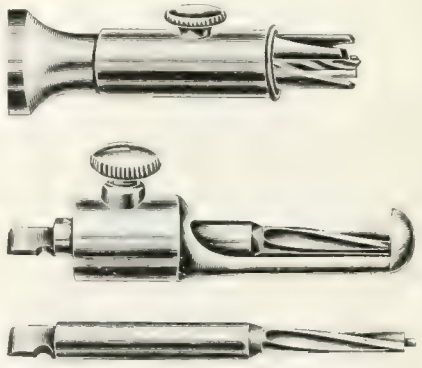


Fig. 5. Skull trephine and spiral osteotome with guard

in operating rooms are of tile or other material which carries current, so that one need touch but one side of the circuit when the current is felt.

The makers also call attention to the lubrication, which is another feature which has been carefully worked out. Ball bearings are used throughout and these bearings are packed in grease which need not be renewed more than once in from two to four years. This fact, together with the fact that the body is enclosed, make it a quiet operating machine.

There are many hospitals which do not care to purchase one electrically driven equipment for the members of the general surgery staff and another for the nose and throat department. For such institutions this new outfit seems ideal because when once the motor, cable and handpiece have been acquired the rest of the equipment that may be needed can be added from time to time as required.

I never knew any man in my life who could not bear another's misfortunes perfectly like a Christian.—Pope.

THE EYE AND EAR SERVICE IN GENERAL HOSPITALS

How It May Be Improved Through Team-Work—Stable Intern and Nursing Service Essential

Dr. Frank Allport, writing in a recent number of the *Illinois Medical Journal*, says that, while surgeons, internists, obstetricians, pediatricians, orthopedists, etc., all receive hearty welcome and cooperation in general hospitals, the eye and ear surgeon usually finds himself more or less isolated and is obliged to do his work amid many difficulties and perplexities, with a more or less reluctant and unskillful service. His patients are scattered throughout various wards, and he is therefore compelled to depend on different nurses who, though competent in ordinary cases, generally, owing to lack of training, are incompetent and often dangerous in eye and ear cases. Many eyes have been lost from the awkward, ignorant, and bungling care of incompetent interns and nurses. The surgeon, moreover, cannot know that his solutions, bandages, ointments, droppers, etc., are actually aseptic, and this, too, has caused the loss of eyes. Patients and materials being scattered all over the hospital, the instrument, drug, or appliance that is wanted is rarely on hand. Interns and nurses, being changed every few weeks in most hospitals, never reach the point of being useful.

In the operating room the trials of the eye and ear surgeon are equally numerous. Few general hospitals possess an adequate supply of instruments; the surgeon has to bring his own (generally omitting the one that he most needs), which have to be prepared after his arrival. The operating room nurse is generally new and unacquainted with his individual needs and with the care required for ophthalmological instruments. The eye, ear, nose, and throat surgeon should never be obliged to carry his own instruments to the hospital. They should be provided by the hospital, kept locked in a private cabinet, and kept in perfect order by the special and permanent eye and ear nurse and the chief operating room nurse.

Methods of relief from this unsatisfactory condition of affairs must begin with the surgeon himself. The surgeon should not change from one hospital to another, seeking to test them or to extend his acquaintance and influence, but should select one good hospital and do all or nearly all his work there. Thus he may become familiar with that hospital, and the hospital becomes familiar with his requirements. By concentrating instead of scattering his patients, he may become a financial asset to the hospital and thus acquire influence in its management, which enables him to demand constantly improved facilities for his work. He should select a hospital which admits charity cases, as without a large number of charity patients his operative experience will be too limited to admit of growth. It is well to develop a clinic day or days, when visiting doctors will be welcome at operations. The ophthalmologist should not seek to monopolize the entire department, but should encourage other eye and ear surgeons to come on the staff and help build up the department.

On the side of the hospital, the most important thing that can be done to increase the reputation of the hospital and the chances of good results to patients is to provide the eye, ear, nose, and throat department with a special nurse. For the best services a permanent, salaried, resident graduate nurse is required. If a graduate nurse is not obtainable at first, the ophthalmological department should at least be given the exclusive services of one undergraduate nurse for from three to six months. This arrangement will almost surely lead eventually to the employment of a graduate nurse who can be held responsible for all details as to preparation of aseptic solutions, care of instruments, assistance at operations, and nursing of patients. The services of an intern who will remain in the work for a year should also be secured as soon as possible. It has been found easy to secure such interns in St. Luke's Hospital, Chicago; in fact, owing to the number of young doctors who desire to become eye and ear specialists, there is always a waiting list for this position. The eye and ear intern and nurse should always have working under them an assistant intern and nurse who should remain on the service for at least three months, and longer, if possible.

The next desideratum is a special ward with an up-to-date examination, treatment, and dressing room. At St. Luke's there is a special ward of twenty beds, with backs to the windows. The ward is quiet and has a private hallway, lavatory, dining room and kitchen, and a beautiful examination room 20 feet long by 10 feet wide, containing everything necessary for the work. Besides the regular permanent nurse, there are two day nurses and one night nurse always on duty in this ward under the direction of the intern and permanent nurse.

Management of the Small Hospital

"One of the greatest assets to the small hospital," says Edith M. Redwine, R. N., writing in the *American Journal of Nursing*, "is a sufficient number of pupil nurses, with a few to spare, provided they can be cared for comfortably. Too many of our small hospitals try to economize in the nursing department, with the result that they turn out dissatisfied patients and broken-down, discouraged nurses. Such hospitals claim that many nurses make idle time, and that there is always mischief for idle hands to do. I'll give the devil his due, but in the well-regulated hospital there is always something to be done by those who look for it, and they will look for it if properly managed. Plenty of good, healthy, happy nurses go to make satisfied patients, and this is what every hospital must have in order to be a success. In the teaching of nurses, how often it devolves upon the superintendent and her helpers to teach the fundamental principles, in otherwise good material, of manners, personal habits, housekeeping. This being the case, where is there a better place to begin than at the front door of the hospital? Then carry them on through all the different departments, making of them thoroughly trained, competent women, remembering all the time that the hospital is an educational institution and not the workshop of former years.

"One of the most overlooked features in the small hospital is the front entrance. Too often it is left to the superintendent, the bookkeeper, the nurse of the floor, or to anyone who chances to hear the bell ring or finds the visitor wandering in the hall, to look after this important feature. 'Everybody's business is nobody's business,' you know. The usual excuse is offered, 'The nurses are too busy.' 'We cannot afford someone especially for the purpose.' Visitors and patients come, and go away dissatisfied; the public becomes offended, and the hospital becomes a target for criticism.

"I have never tried the following plan, because I have never had the good fortune to have enough nurses, but it seems to me that it might work well. If a probationer were placed in charge of the front entrance, whose sole duty it should be to look after visitors, showing them every courtesy, it might solve one problem for the hospital which cannot afford a trained person for the place. In this way

the probationer learns how to meet the public, she learns how to handle people, and being under constant observation of the superintendent, an insight is obtained of her real character, before she enters upon the larger work of caring for the sick. If the general office is near the front entrance, as it usually is, this probationer might be employed between times in getting a general knowledge of the office work, under the supervision of the bookkeeper. It is surprising to know how few people can answer a telephone properly, or take and deliver a message in the way it should be done. . . .

"In regard to the linen, another big item of expense, I have adopted the following plan, which has worked well: A probationer is put in charge; term of service, one to two months, according to capability shown. It is her duty to count the laundry in and out, mend that which is worth it and take to the superintendent, to be discarded or made over into other things, all linen which is too dilapidated to be mended. I try to keep a supply of new linen in the store room so that each discarded piece may be replaced immediately. This keeps the supply always the same, and one can tell at a glance just how much linen is on hand. Each department has its own linen designated by kind and color; blue bordered towels and marseilles spreads for the nurses' home; plain white for private patients; red-bordered for wards; plain white linen crash towels for operating room, and so on. This simplifies the counting of linen, as, with the exception of sheets and pillow cases, the nurse can tell at a glance just where each piece belongs. This same probationer distributes the linen to the wards and other departments, having first received a written requisition signed by the nurse in charge and by the superintendent. (These requisitions, by the way, should be issued from all departments, and nothing should be sent to the wards from any department without a requisition properly signed.) These are best issued on printed forms, as this saves time, but in the absence of such, should be written out by the nurse and should have the date, number of patients, amount asked for, amount sent out, and amount received. This method, you see, enables the superintendent to keep track of things. The linen nurse has charge, also, of the nurses' home, seeing that beds are changed at stated intervals, distributing towels, soap, and other necessities, directing and assisting the maid when any special cleaning is to be done. She knows when new linen is purchased and its cost. Each Saturday night a written report is placed on the superintendent's desk, stating the amount of linen torn or lost in the laundry. In this way the probationer is given a practical lesson in economics, and the work is accomplished without the employment of an outside agency. One rarely finds a nurse who has had charge of this department who cannot work to much better advantage and who does not understand true economy.

"I manage the drug department and store room supplies in much the same way, though this time a senior nurse is placed in charge. She sees to the daily distribution of drugs, fills such prescriptions as she may, makes the ward solutions, gives out weekly supplies, and reports to headquarter any waste or undue usage of drugs in her charge. A want book is kept, in which is placed daily a list of drugs and supplies of which the stock is low, with special mention of those needed at once. To her are taken all broken and worn-out articles to be replaced. Of these she keeps a record, with dates. (The nurses are required to report and pay for breakage.) She knows the cost of the drugs, keeps up with the rise and fall in prices, knows when it is best to buy in quantity or in small lots, learns when to buy and when not to buy. For instance, at the beginning of the European War, when there was a decided advance in the price of rubber goods, some hospitals I know of bought up a year's supply. We bought for only six months, figuring that it would deteriorate on the shelves after that time, but we did buy carbolic acid, and there never was a time when we did not have a goodly supply. The reason for doing this is explained to the nurses in the class room. The drug room nurse also has charge of the urinalysis room. In this manner the work is again accomplished without the aid of a pharmacist, and the nurse gets practical lessons in the handling and administration of drugs, in urinalysis, and in hospital economics.

"The other departments of the hospital are managed in much the same way. In the nurses' home, the senior of each dormitory is made responsible mentally, morally, and physically for the nurses rooming with her. She sees that each nurse exercises proper hygienic care; that she is in her room on time; and that lights go out promptly. She reports or sees that the nurse reports at once any illness, such as usual hospital sore throats, etc. A written report for the week is placed on the superintendent's desk every Sunday morning. . . ."

TRAINING OF MILITARY MASSEUSES

Remedial Massage for Treatment of Convalescent Soldiers Taught to Girl Recruits in Canada

Remedial massage for the treatment of convalescent soldiers is claiming the attention of hospital authorities in Canada, and a regular course for training eighty girl recruits from all parts of the Dominion has been inaugurated at the University of Toronto.

The masseuses are enlisted in a military sense and are regarded on a par with their nursing sisters, for, with the latter, they were the only women entitled to vote in the last election (in which conscription was the issue) because of their war service. They have been admitted to the massage school only after being declared fit for service, and agreeing to serve the Dominion in the military convalescent hospitals for one year after graduation. The course takes six months, during which they are paid an allowance of $25 a month. After finishing their training they will receive $55 a month with an additional subsistence allowance of 75 cents a day where quarters are not provided.

They undergo physicial training to qualify them for their strenuous occupation, and a staff of highly qualified instructors teach them the various subjects required to make them competent masseuses. The university provides lecture rooms, study rooms and rooms for the practice in which couch-like tables are provided.

A colonel's wife, who was doing real nursing at a certain London hospital, was recently offered a tip of sixpence by an honest old couple in gratitude for her care of their soldier son. Tact personified, she slipped the sixpence back into the father's hand, saying, smilingly, that nurses weren't allowed to accept gratuities.

"Oh, that'll be all right, Sister. I'll not say nothing about it. Just take it, and get yerself a drop o' gin in your off-time!"—Canadian Nurse.

A movement for the establishment of a hospital has been launched at Lancaster, Cal., and is receiving the support of the local chamber of commerce. Dr. F. D. Bishop is one of the promoters.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, ana Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. X *March, 1918* No. 3

HOSPITALS FOR COMMUNICABLE DISEASES

Principles to be Observed in Planning for Isolation Areas—The Barrier System Versus Architectural Isolation—Plans Illustrating the Principles Discussed

By RICHARD E. SCHMIDT, F.A.I.A., of Schmidt, Garden & Martin, Architects, Chicago, With an Editorial Introduction.

EDITORIAL INTRODUCTION.

JUST now the great number of communicable diseases in the military camps scattered over the country have made the isolation and care of the communicable diseases a very live topic. We have nothing to do with the isolation of soldiers in camp, but this problem is quite as acute in the civil hospitals as it is in military camps, and there are probably a thousand or more hospital superintendents just at the present time thinking about building isolation pavilions for the care of the communicable diseases or about making alterations to fit some present hospital areas to take care of these classes.

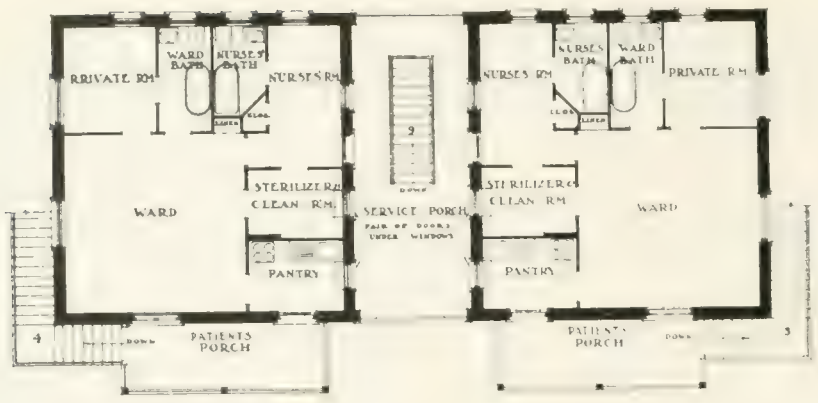
For these reasons a discussion of hospital plans for isolation areas ought to be profitable and instructive, and we have asked Mr. Richard E. Schmidt, the hospital architect, to present some plans of isolation buildings that he has recently put up and plans of others designed on the same principles, and to discuss the reasons for the arrangements that he has made. He is doing so in an article and illustrations following this introduction. We are taking the liberty of discussing the problem of isolation preliminary to a study of his plans.

Some four or five years ago Dr. D. L. Richardson, working in collaboration with Dr. Charles V. Chapin, gave much publicity to the plans of the Providence City Communicable Disease Hospital, and there was much discussion about the methods in that institution for the technical care of the communicable diseases.

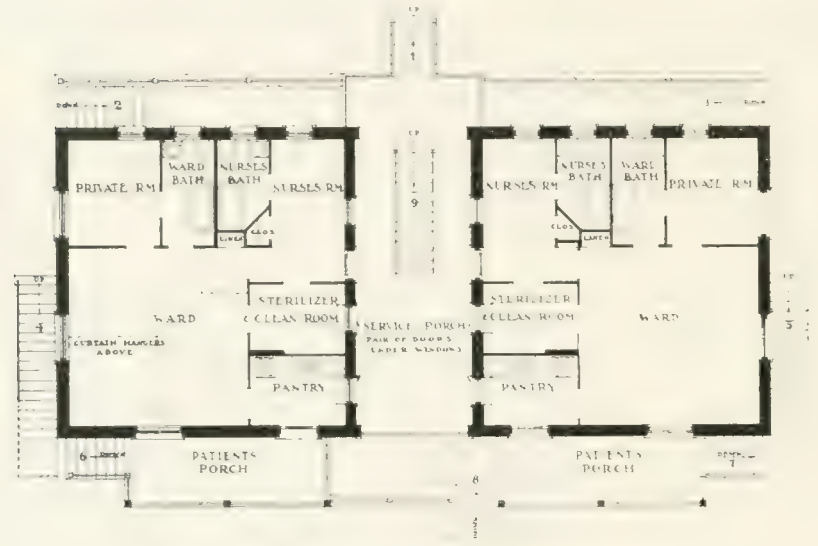
The Providence City Hospital was arranged just as any other acute disease general hospital is designed, and the prevention of cross-infections was left entirely to the technical methods employed. Dr. Richardson had no other visiting physicians in his hospital. He employed resident assistants by the year, and they were frequently retained for several years. Most of his nurses were graduates and were retained over long periods of time; the orderlies and maids were paid high wages and were consequently more or less permanent.

Using this kind of personnel, Dr. Richardson could train the individuals to carry out a carefully designed technic so that cross-infections were the exception and not the rule. But even under these rigid conditions there was a measurable percentage of cross-infections.

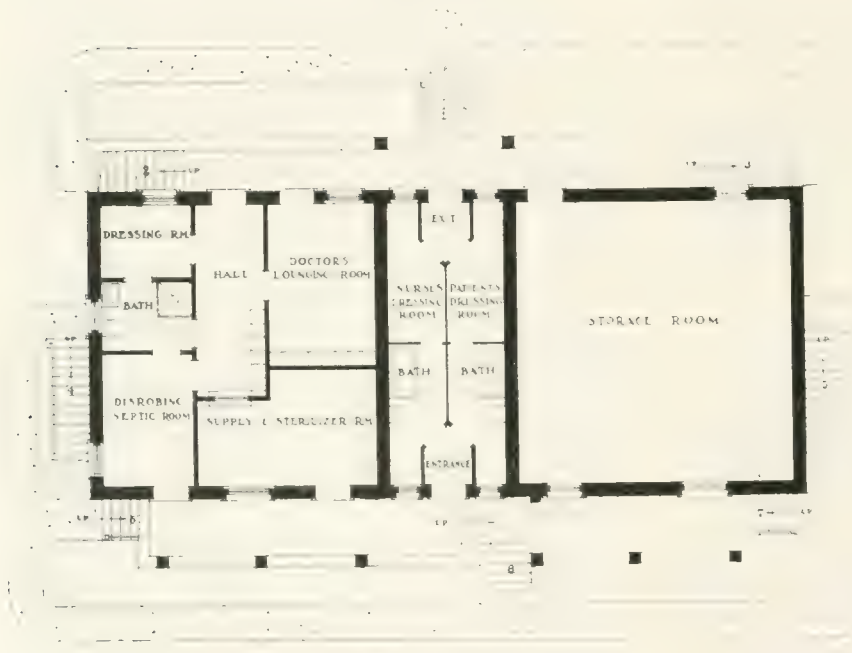
Hardly any other institution in the country could be maintained as Dr. Richardson's hospital was managed. In most institutions there are many practicing physicians who visit the infectious disease areas. Interns and pupil nurses are employed, and these young men and young women rotate rapidly so that they do not stay long enough to acquire a precise technic. Many visiting doctors refuse to obey rules of technic of any sort and consider themselves above obedience to any rules whatever. Maids and orderlies in most hospitals are paid such low wages that they go and come frequently, and those who work in the in fectious disease department do not obtain higher wages for this service, and it is extremely objectionable service to them because they are not allowed free intercourse with the outside world.



Second floor plan.



First floor plan.



Ground floor plan.

Fig. 1. Plans of the isolation building of Michael Reese Hospital, comprising a basement and two stories, with four complete units for patients in the first and second stories. The units can be thoroughly fumigated without damage to the structure.

Consequently they are always going and coming.

The net result is that, in nine of these hospitals out of ten, it is impossible to perfect a segregation by technical methods alone; hence it is obviously necessary that we seek in some other direction the necessary methods by which cross-infections may be reduced to the lowest possible point. The one single way is to provide the essentials for the prevention of cross-infections in the architecture of the building.

This subject has been given an immense amount of thought, and Mr. Schmidt's new buildings are the result of some most careful study, not only of the architect but of trained hospital administrators, specialists in the medical profession in the communicable diseases, and of the most carefully trained members of training schools.

In Mr. Schmidt's buildings the main principle is followed that the communicable diseases are passed from individual to individual by direct contact as distinguished from what used to be known as "air infection."

The little hospital that Mr. Schmidt presents, which is a part of Michael Reese Hospital, Chicago, is a case in point and specially applicable. Michael Reese is an institution of some 500 beds with a children's building of 150 beds. The communicable diseases are not accepted in the hospital as a rule, and the isolation building was constructed only for the purpose of taking care of communicable

infections that developed in the institution itself. These diseases were not only the communicable diseases of childhood, such as diphtheria, scarlet fever, measles, whooping cough, chicken pox, mumps, etc., but also erysipelas and puerperal fever that might develop in the adult parts of the hospital. The other plans that Mr. Schmidt is presenting speak for themselves.—J. A. HORNSBY.

DISCUSSION OF PLANS BY MR. SCHMIDT.

The plans presented in this article are not intended for large city hospitals manned in the manner in which the Providence City Hospital

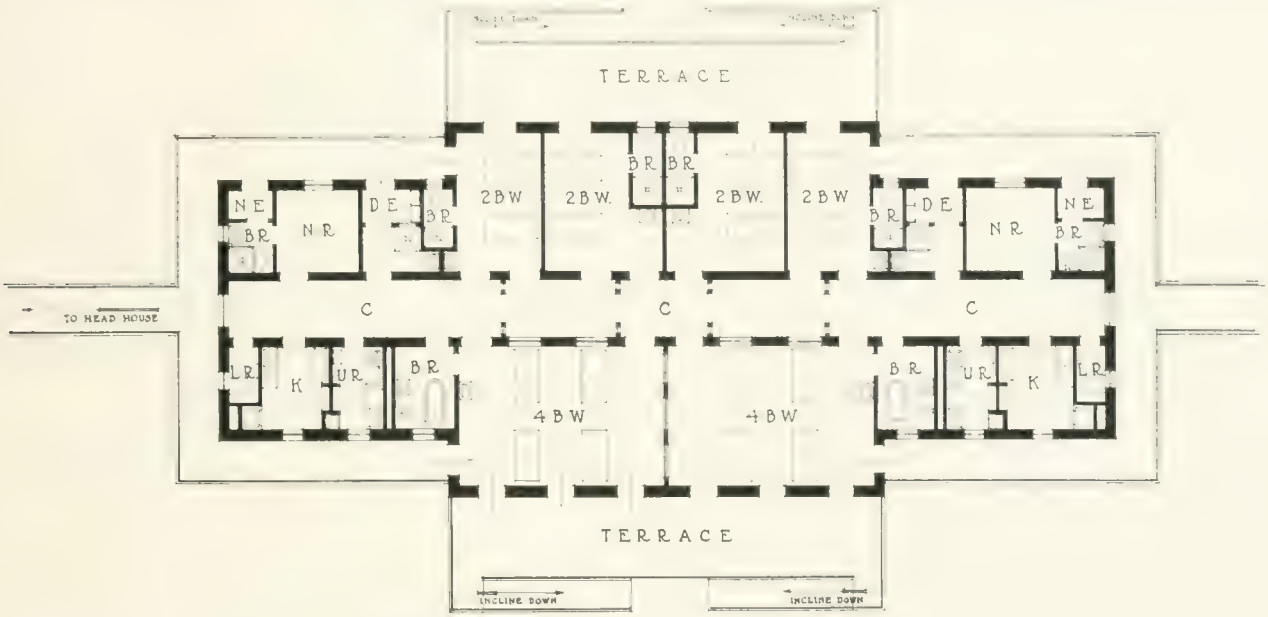


Fig. 2. Plan of a sixteen-bed isolation hospital for two diseases, designed to be operated according to the same technic as that used in the isolation building of Michael Reese Hospital (Fig. 1).

B. W. Bed ward. U. R. Utility room. L. R. Linen room. N. E. Nurses' entrance. C. Corridor.
N. R. Nurse's room. B. R. Bath room. D. E. Doctors' entrance. K. Kitchen.

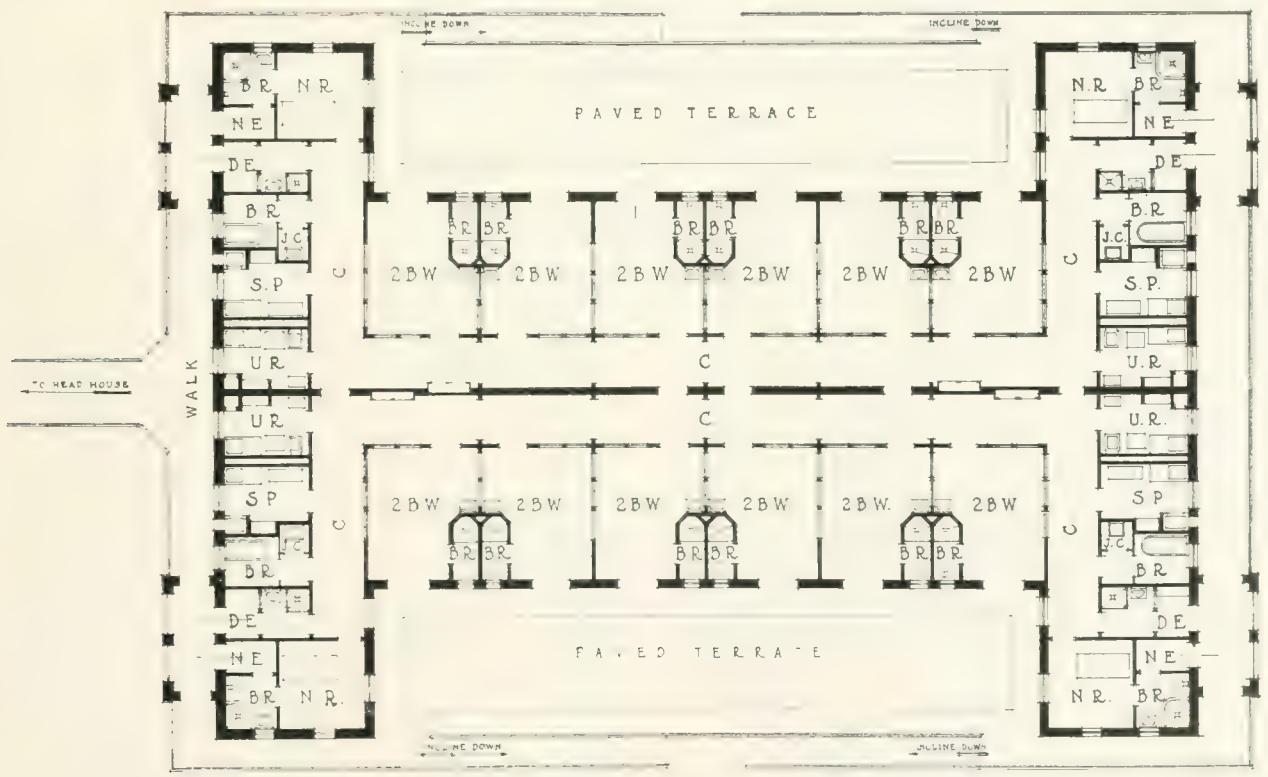


Fig. 3. Plan of twelve-ward isolation hospital for four diseases, likewise designed to be operated according to the same technic as that employed in the isolation building (Fig. 1). These three plans are based on a unit system which has great elasticity.

B. W. Bed ward. U. R. Utility room. S. P. Serving pantry. D. E. Doctors' entrance. K. Kitchen.
N. R. Nurse's room. B. R. Bath room. J. C. Janitors' closet. N. E. Nurses' entrance. C. Corridor.

is served as described by Dr. Hornsby in the preceding article, although they can be developed to any size without deviating from the principles on which they are based.

The principles which governed the planing are based on the assumption that the technic of treating patients afflicted with a contagious disease should follow the path of least resistance, i. e., that physical segregation by means of walls and other structural barriers and the use of articles

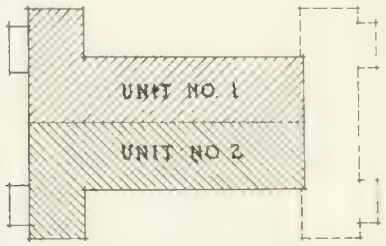


Fig. 4. Variation of twelve ward into four units.

which obviously indicate their intended function will compel the attendants to the performance of certain duties and make the probability of failure to comply with the rules of isolation less likely to occur and also prevent carelessness. It also seems certain that a non-compliance with the principles of isolation is less likely to occur in a hospital built as shown by the accompanying plans than in hospitals arranged in accordance with the barrier or cubicle systems.

A room, fixture, or article is provided for every step; the rules for physicians, nurses and other employees are, as a matter of course, the same as for any other type of plan, but the danger of cross-infection is reduced to a minimum.

Fig. 5. Variation of the twelve-ward isolation hospital for four diseases shown in Fig. 3.

Inasmuch as the attending physician, the person who is trained and appreciates the technic of isolation, is the only one of the several engaged in this work who will at times be in contact with the several communicable diseases, the nurses and other attendants, who are engaged in these duties only intermittently in this field of hospital work, will be in contact with only one of the infectious diseases, the probabilities of a breakdown of principles and rules is unlikely.

In large institutions established solely for the purpose, where a trained staff is always at hand, the barrier system can no doubt be operated with fair success, but in small communities and in contagious hospitals which are auxiliaries of general hospitals in cities having established public hospitals for contagious diseases, in which such cases are not constantly under treatment, and where the field is not large enough to invite or require the constant attendance of specialists and where a single emergency case is likely to arise and untrained help must be employed at very short notice, every employee can follow the technic almost automatically without previous experience or a long term of coaching.

Fig. 1 illustrates the isolation building of the Michael Reese Hospital; it has a basement and two stories and is of fire-resisting construction. It contains four complete units for patients in the first and second stories. The construction is such that the units can be fumigated and disinfected most thoroughly without damage to the structure.

Food may be passed into the units without danger of passing the infection to the orderly carrying it, and soiled linen, used dishes, and garbage

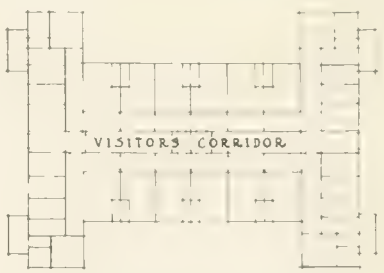


Fig. 6. An inclosed visitor's corridor so arranged that maximum flexibility is maintained. The wall between the visitors' corridor and the ward corridor is to be glazed.

may be passed out of each unit without danger of infection to those receiving it. Arrangements have been made by which a physician, patient, or nurse may be cleaned up and cleared out of the premises without taking any of the elements of infection with him or her.

Each unit comprises the following rooms, namely: three-bed ward, one-bed ward, patients' bath and toilet room, nurse's bedroom, nurse's bath and toilet, pantry, and sterilizing rooms.

Food, clean linen and other supplies will be brought to the respective porch windows and set upon the shelf of the window so that the nurse can reach it. The soiled linens, used dishes and garbage are to be deposited by the nurse in tanks placed in an enclosed space under the window shelves. These tanks are of galvanized iron and filled with disinfecting solutions. When the nurse desires to deposit soiled linens, she lifts the lid of the tank and drops the linen into it. The orderly can come later, wring out and remove the linens, and take them to the laundry. Soiled dishes are treated similarly.

The physician who has come to examine a patient enters the basement hall and deposits his outer garments in the lounging room, clothes himself with visiting garments taken from lockers in the hallway in the dressing room, and proceeds up any flights of stairs which may lead into the unit he wishes to visit. After the visit he returns to the ground by one of the stairways and removes

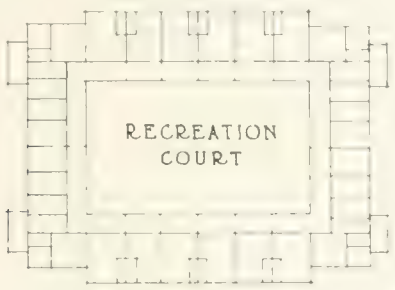


Fig. 7. An inclosed open-air recreation court. This arrangement is not quite so flexible as that shown in Figs. 2, 3, 4, 5, 6.

his visiting clothes in the disrobing room, and if he wishes to visit another patient in the same building he will take other clean visiting apparel from another locker and repeat the procedure as many times as necessary, each time following the some order. When he has made his final visit he removes all of his clothing, takes a shower bath, dons street clothing in the dressing room, takes

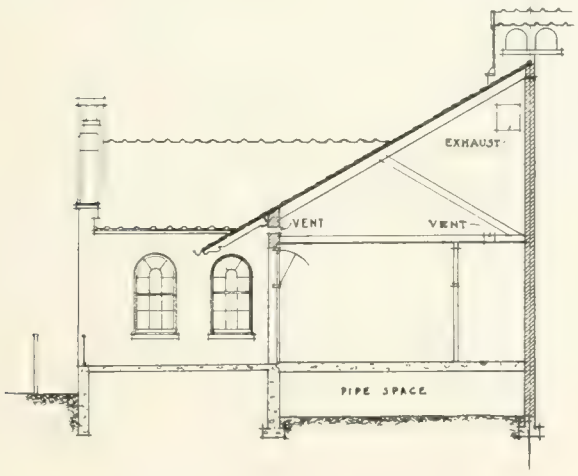


Fig. 8. Cross-section through building.

his outer garments from the lounging room and from there passes out into the street, or back to the general hospital.

It is not necessary to enlarge on other details which are required for a proper technic.

When the patient and nurse are ready to leave the building they will leave by one of the "porches for patients." The windows leading to these extend to the floor. A separate stairway has been provided from each patient's porch to the ground level. The patient and nurse will separate in the basement exit, bathe and don clean clothing in their respective bath and dressing rooms, and, no longer a menace to the community, leave the building by the doorway marked "exit."

Before leaving the unit the nurse will straighten up the apartment preparatory for subsequent fumigation and disinfection. In this procedure, as in the one for patients, there are many details of technic which it is not necessary to describe herein.

The service porches are intended for communication between the kitchen, laundry, and other service.

Electric fans are provided in the nurse's clean-up department in the basement, so that she may dry her hair rapidly.

If the patient is a child unable to disrobe, bathe, or re-clothe itself, the nurse must clean up and change her garments twice, first to assist the child, and again after having done this and passed it to a clean nurse on the outside.

The plans shown in Figs. 2, 3, and 7 have been designed to be operated according to the same technic as that selected for Plan 1. They are based on a unit system which has almost unlimited elasticity in the number of beds which are attached to one service and available for one disease, leaving the remaining rooms connected to other services and for other diseases; in consequence of this arrangement, a minimum number of nurses will be required and there is no danger of cross-infection.

The diagrams shown in Figs. 4, 5, and 6 illustrate the elasticity in numbers of patients and an inspection of Plans 2 and 3 indicates the doors which must be sealed to obtain the various combinations of rooms.

The patient capacity of plans 2, 3, and 7 can be increased to an unlimited extent by building them two stories in height, or a group of the same size or by increasing the number of wards between the services.

Inasmuch as elevators and dumb waiters obviously increase the danger of infection, it will probably be inadvisable to build more than two stories.

If two-story buildings are constructed, two stairs, one at each end of the building, will be necessary both for safety and for proper operation. One stair should be used for conveying infected, the other clean goods and persons. Both stairs should be well ventilated and separated from the building by open-air connections. Balconies should run around the entire building connecting the stairs with each other and the various parts of the building.

The rooms provided in the basement of Plan 1 for the discharge of patients and nurses and for

the use of the physician, in making his visits, can be provided either in the basement or in a small separate building or in a wing of the building.

While the rooms of Plans 2 and 3 are marked "two-bed wards" they would be admirable private rooms.

Plan 6 shows a glass-enclosed visitors' gallery, which may be an advisable provision in city owned contagious hospitals.

In preparing the plans it was assumed that these buildings would be on the grounds of a general hospital, so that they can have kitchen, laundry, power house and other general service from the general hospital plant. If, however, any one of them is built as a separate institution, it will be necessary to construct a head house for the following and other functions: (1) administrative offices, (2) receiving department with a few isolation rooms, (3) discharging rooms, (4) operating room, (5) house physicians' quarters, (6) nurses' quarters, (7) help's quarters, (8) laundry with goods sterilizing apparatus, (9) kitchens, (10) store rooms, (11) morgue and small chapel.

If connected with a general hospital: operating rooms, goods sterilizing apparatus if main laundry is not so equipped, receiving and discharging rooms, morgue and small chapel can be placed in basement of isolation building if first floor is well above grade.

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UNIVERSITY TRAINING FOR THE NAVY HOSPITAL CORPS*

How Bluejackets Are Instructed at the University of Minnesota Medical College for Duty Aboard Uncle Sam's Big Ships—Courses in Bandaging, Invalid Cookery, Practical Nursing, Etc., Readily Absorbed by Sailor Students

By WILLARD CONNELY, Chief Yeoman, U. S. N. R. F.

FOR the first time in history, medical bluejackets under training are enjoying the broad benefits of a medical college and its attached hospital. This most striking adjunct of the Minneapolis Naval Training Station, under the direction of Commandant Colby Dodge, U. S. N., marks a precedent which will be designated by future war chroniclers as unique, inspiring, and potent in efficacy. Regardless of remoteness from an ocean, the navy is welcoming just such invigorating departures throughout the land.

At the University of Minnesota medical school no curtailment if instruction for the regular civilian medical student was involved in this addition of one hundred men of the navy hospital corps. Professors in the college and nurses of the hospital training staff magnanimously volunteered extra services to teach the bluejackets. Arriving at the university from Pacific coast stations, most of the sailors were rated hospital apprentices second class, but in a few weeks' time Asst. Surgeon Olson, U. S. N., in charge of the sick bay of the Minneapolis training detachment, after an examination rated them all first class. These men have been despatched to duty aboard hospital ships or at naval hospitals up and down the Atlantic seaboard. With three months' intensive teaching at the university they were grounded in medical essentials of extraordinary scope and variety. Surgeon-General William C. Braisted, U. S. N., expressing his appreciation from Washington, has detailed a second hundred hospital corpsmen to follow the worthy footsteps of their predecessors at the Minneapolis station.

Fig. 1. University of Minnesota medical college dispensary, nose and throat clinic, where the bluejackets daily assist the surgeons, and learn something of diagnosis and quick treatment.

The course of instruction, admirably outlined by Dean Lyon of the medical school, runs six hours daily, or thirty hours each week. This work balances nicely between lectures and laboratory exercises in the morning and, from 1 p. m. until 4, clinics at the dispensary or practical nursing at the university hospital. Bandaging is given the bluejackets by Miss Louise Powell, superintendent of nurses; nursing by Miss Mary Vannier, assistant superintendent; invalid cookery by Miss Gertrude Thomas, dietitian. These instructors are aided by the staff of graduate nurses, while the interns as well give frequent lectures and demonstations to the men.

Before they were permitted to attend classes and to receive ward training within the hospital, the sailors took lectures and worked in the various laboratories of the medical school for a full month. There, too, they put in some good round hours of evening study over such treatises as Kimber's "Textbook of Anatomy and Physiology for Nurses," and Parker's "Materia Medica and Therapeutics."

"I enlisted in the navy so I wouldn't have to go to school," wailed one of the bluejackets, as he wrestled with an equation in chemistry. "And now look at me, up against a university!"

But nobody could have bribed him to quit his studies. When these men found that college education was thrust upon them, they took the bit like old stage horses; they didn't stagger, they pranced. Their average learning showed about three years in high school, which is to say that not a few of them had been in college or had just earned their academic degrees at the

*On February 18 Commander Walter J. Terhune, U. S. N., became commandant of the U. S. Naval Training Detachment in Minneapolis, while Ensign Colby Dodge, U. S. N., to date commanding officer, became executive officer.

time just enrolled in the service. Suddenly they found themselves pointed toward the naval rating of pharmacist's mate, an enviable billet which in likelihood leads ultimately to the substantial civilian professions of apothecary or, indeed, doctor of medicine. So they bent to their oars, every man of them, charged with enthusiasm, calculating their post-bellum destinies.

In order clearly to show how well prepared the sailors were to undertake intelligently their duties at the hospital, it may be in place to sketch briefly their courses in the medical school. Based on the Red Cross first-aid handy book, the lectures in minor surgery covered shock and hemorrhage, wounds and boils and their treatment, burns, frostbites and sunstroke, conditions which call for artificial respiration, carrying and handling the injured, poisons and antidotes, and common fractures and dislocations. Immediately following the minor surgery talks and demonstrations were lectures in pharmacology and therapeutics, including elementary chemistry, weights, measures and prescription writing, general and local anesthetics, soporifics and sedatives, salicylates and antipyretics, circulatory stimulants, purgatives, specific and alkali therapy and antiseptics. The next hour was claimed by anatomy, with lectures and dissections of joints, muscles, circulation, alimentary canal, and the nervous system. The work in physiologic chemistry embraced the composition, properties, and importance of carbohydrates, fats, proteins, and inorganic matter. In physiology of the animal machine, the bluejackets were shown stimulation and response, types of stimuli, of muscle, the nervous system including the spinal cord, and circulation, with blood vessels and the vasomotor system. Hygiene embodied a survey of blood, respiration, digestion, absorption, physiology of the skin, and heat producers. Bacteriology—one whole morning per week—covered staining, culture of bacteria, common pathogens, transmission of infection, disinfectants, and bacteriologic examination of water. Urinalysis included the tests for albumin and sugar, and detection and analysis of sediment. Moreover, the men were detailed in small groups each afternoon to the dispensaries, eye, ear, nose, throat, and dermatology.

Fig. 2. One of the operating rooms at Elliott Memorial Hospital, University of Minnesota medical college, where, by practicing irrigations on patients, the sailors gain confidence in their individual abilities.

Less than half the foregoing, of course, did the sailor students cover before they were ushered into the hospital. The more advanced topics they took up concurrently with the latter. I present the entire naval schedule at the college for the twofold purpose of conciseness and so that readers may see how, as the hospital instruction progressed, the medical school work interlocked with nicety to supplement it.

Bandaging is given in six periods of one and one-half hour each. Miss Powell and her assistant head nurses take the sailors in sections of twenty. The first lesson is principally a lecture and demonstration, covering the fundamental facts of the art, preparation of the wound and of the gauze, how to roll the bandage, starting, essential turns,

Fig. 3. By teaching the men in such small sections as this, the enhanced value of greater individual attention cannot be overestimated. The computation and administering of hypodermics can be learned thoroughly in no better way.

and ending. After that the bulk of the instruction consists in having the bluejackets practice upon one another, under the continued supervision and guidance of the nurses. Beginning with the one-inch bandage, the sailors apply the gauntlet, with tips covered, then with tips not covered. Whenever they remove a fillet they are

required to roll it up. Then they larn the spica of thumb, a type of dressing as frequently called for at sea as ashore. Proceeding to the two-inch bandage, the men are taught the spiral reverse, upper extremity, and the figure eight, upper extremity.

By the next lesson the jackies are ready to go ahead with the two and one-half inch size, both spiral reverse and figure eight, but for the foot and leg. They remove their shoes and roll up their wide-bottomed trouser legs, unexpectedly convenient and adaptable at this juncture. Having now learned to bind cinctures a little more rapidly, the sailor-students are permitted to use the mechanical bandage-roller, so that they put in not too much time on this operation. Then the Barton, the double oblique jaw, and the recurrent head follow as given, completing the period.

Fig. 4. In the laboratory of pharmacology and therapeutics, with Dr. Arthur Hirschfelder and Dr. Edgar Brown. After demonstrating such tests as shown, the professors require the men to repeat the work independently.

Advancing next time to the more complicated fillets, Miss Powell gives the men the crossed one eye, or monocle, the crossed both eyes, and the mastoid. By now the apprentices are ripe for a quiz, and their individual abilities are tested in the classroom; if one man winds incorrectly, his mates are asked to set him aright.

Then comes the Velpeau group, including the spica as shoulder, the triangle as Velpeau, triangle as sling, as hand, foot, and cap. These types comprise a good afternoon's work. The fifth period is given to the four-tailed styles, the occiput, vertex, the neck. At this point the handkerchief head is also learned. Of the elastic kinds only tourniquets are shown. To enter quickly the classroom where all this worried bandaging is proceeding so diligently is to imagine that an airplane bomb has just been dropped therein, that the uninjured bluejackets rushed swiftly to the aid of their wounded comrades, so intently, so carefully, is each man encircling wrappings about head, arm, or leg of his submissive mate. To complete the verisimilitude nothing lacks but the groans.

Miss Powell finishes this excellent course with a demonstration of applying adhesive tapes, fenestration and application and removal of plaster-of-paris casts. After such instruction Ensign Dodge believes his apprentices can go to sea capable of bandaging anything up to and including a leak in a ship.

The work in invalid cookery is also accorded six and one-half hour periods. Miss Thomas starts her course with an explanation of the rudiments, embodying definitions of dietetics, food, food accessories, and conditions for perfect nutrition. Next the five food classes, their composition and examples of each, effects of heat upon each, and the use of each class in the body. In sequence are discussed the caloric value of food, chemical and mechanical digestion, digestive aids, points to be observed in the service of food, and preparation of the tray. Under classification of

Fig. 5. The blackboard indicates a fair afternoon's work. Miss Louise Powell, superintendent of nurses (at the right), directs the class in bandaging.

hospital diets she toches upon the liquid, semisolid, light, and general groups. The care of food materials and care of laboratory cover directions for washing dishes, care of sink, care of refrigerator, and care of refuse can. Completing this first lecture are the table of abbreviations, table of measurements, and rules for measuring.

In the second lesson the bluejackets start right off on preparing liquid diet. On the blackboard are the recipes, which the men copy in their note-

Fig. 6. The Class in invalid cookery preparing semisolid diet. They are making cream sauce, cream of tomato soup, and foamy omelet.

books for reference when they arrive at sea duty. During one period I watched the apprentices making peptonized milk, junket, ice cream and sherbet, albuminized lemon, milk shake, eggnog, and coffee. A great many of the sailors courted indigestion in their avidity to "see how it tasted." In their haste, too, to make everything scheduled for that day, the men generally neglected "points to be observed in serving." Miss Thomas' rule is that each student must show her each specimen when he has it ready for the patient. In the laboratory is a china cabinet completely stocked, but the dishes at first seemed to go begging. The coffee was displayed to the instructor in tin cups, the albuminized lemon in measuring beakers.

"Would you serve it to your patient that way?" asked Miss Thomas.

"Yessum," was the glib reply. "A sailor wouldn't know the difference."

Therein outcrops the lack of the essential feminine touch, which a "man nurse" naturally slights. However, the repeated dictum that china cups and saucers must be used in every case soon turned the bluejackets to the employment of "dishes."

The third period completes liquid diet, with such as acid beverages, pasteurized and sterilized milk, buttermilk, tea, cocoa, malted milk, broth, farinaceous beverages and gruels. In semisolid diets, Lesson 4, the men learn cookery of cereals, cream sauce, cream soups, eggs, milk toast, and simple desserts, as gelatine and blanc mange. Light diet proceeds with cookery of meat and vegetables, scraped beef, fish, chops, baked potato, service of green vegetables, baked fruit, and raw fruit. The last lesson, general diet, covers in more detail the service of a tray. Then follow the cooking of, for example, steak, mashed potato, various vegetables, and farinaceous desserts. The men cook wholly independently of one another, each with his own stove, own utensils, and food materials.

In practical nursing a course of ten lessons is given by Miss Vannier and a staff of assistant head nurses at the university hospital. This work is apportioned among the wards, a diet kitchen used for poultice-making, smaller rooms used for sectional classwork, and the operating room, including an adjoining compartment for instruction in sterilizing. So popular was this phase of the training that a large squad of bluejackets preferred to remain in Minneapolis over the Christmas holidays, rather than accept furloughs to their homes on the Pacific coast, in order to receive additional instruction as real surgeons' assistants. They scrubbed up for operations, sterilized gowns and

Fig. 7. In this special diet kitchen each bluejacket makes the poultice for his own patient. As fast as one section finishes, another group comes in to work.

gloves, made sterile dressings and boiled water, administered anesthetics — one by each sailor every day—used stomach pumps, made bladder irrigations, threaded sutures, worked daily in the special diet kitchen, and assisted at operations throughout. Is it any wonder that such honestly energetic bluejackets are with all confidence looking forward to an M. D. degree some day?

The first ward lesson the men receive upon entering the hospital after their month's training exclusively in the medical college itself is in bed-making, with and without the patient. This primary instruction entails also use of the backrest, the cradle, air cushion, pillows, pads and swing. Methods of taking temperature, pulse, and respiration are now taught as well. The drugs is also taught, explained minutely, to every man.

The third lesson in ward management extends to special care of mouth and teeth, washing the hair in bed, treatment for pediculosis, disinfection of excreta and bedding, preparation of specimens, and charting. The latter topic is given, like the hypodermic work, in small classroom sections. Aside from their immediate significance to the doctor or surgeon in charge, charts are discussed as well from the angle of their immense sociologic value.

Fig. 8. Stupes, compresses, or poultices are in all cases made by the sailors themselves before application. This ward of the university hospital is devoted daily to instructing the navy men.

The next phase of the training runs into compresses. This general subject involves the application of hot and cold compresses, turpentine stupes, the mustard foot bath, mustard plasters made and applied, and flaxseed poultices, finally the filling and care of hot-water bags and ice caps. As in every lesson, Miss Vannier first demonstrates each detail in the operating room, taking the navy sailors of course practice on convalescents, who, indeed, enjoy the recess—to them a novelty, a rift in monotonous hours—quite as much as the apprentices themselves.

Fig. 9. Miss Mary Vannier, assistant superintendent of nurses, conducting a quiz on instillation of eye drops and irrigation of ear. The men seated are invited to criticize the work of their mates.

Lesson 2 is the bed bath and toilet, special care of the back, preparation for the night, giving of medicines, and computing, preparing and administering hypodermics. For the hypodermic work Miss Vannier takes the bluejackets in sections of five to one of the smaller classrooms, where they are thoroughly drilled in figuring on the blackboard the puzzling problem of, for instance, obtaining one-fiftieth with one-twentieth on hand. Beside the table where the men prepare the injections is a bed occupied by a patient dummy (the word "patient" may be construed ad lib.) which receives in its right arm the varied soporifics. Naturally, under this detail of the training the apprentices are given a full understanding of the circumferences under which a hypodermic may be used. Meticulous care of the needle and the men in two sections of fifty each. At the next period after the demonstration the sailors go to the ward, every man to his patient, and under the direction of a head nurse they show how much they learned from the lecture.

At this stage of the instruction a general oral quiz in the operating room gave an interesting sidelight on the capabilities of the bluejackets thus far. While one man would be answering

a question, another would be alloted a certain task to perform at the bedside of a patient rolled in for the purpose, another would be assigned a problem in hypodermic computation at the blackboard, still another would be given a specific duty with a second patient. The sailors averaged well in their answers, and those uncertain of correctness showed extreme anxiety to say something, at least, rather than admit ignorance.

"What are bedsores?" was one question.

The reply was not prompt. Then, "Why, bedsores are sores the patient gets in bed—bedsores."

Walk in a circle if you have to, thinks the bluejacket, but never say "I don't know" with all your mates sitting around.

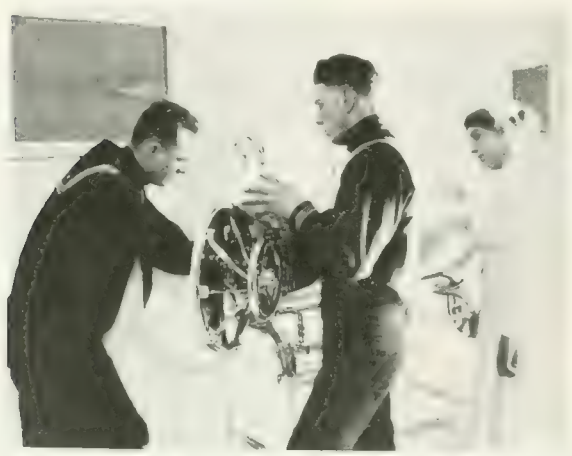

Fig. 10. Operation of sterilizers and tanks is learned to the minutest detail. These men, sterilizing dressings, are about ready to "scrub up" to assist at an operation in an adjoining room.

Another question, "What is to be observed about the extremities of a patient newly admitted to the hospital?"

The sailor quizzed had evidenly been deeply impressed by an erstwhile lecture on antisepsis. He answered, "See if they're dirty."

The next lesson, the fifth, covers preparation for operation. This subject of course is subdivided into such essentials as moving and lifting the patient to the stretcher, preparation of the ether bed, Fowler's position, post-operative care, turning and lifting the patient in bed (bolstering with pillows, favoring the weaker side, etc.), and getting the patient up in the chair. During the holidays previously mentioned some of the men had an opportunity actually to perform these care-laden duties.

Then the expression of stomach contents, embracing lavage and gavage, is succeeded by irrigations of eye, ear, nose, and throat, this demonstration concluding with the instillation of drops. The pneumonia jacket and the Priessnitz compress ensue—intensely practical, since in the service many cases of pneumonia can be treated abortively with great success if nipped in the bud by hospital apprentices adept in diagnosis—and the cold sponge to reduce temperature, the cold pack, the hot pack or sweat bath and inhalation.

The group following, ably demonstrated by two of the interns, takes in the various enemas, enteroclysis, catheterization and bladder irrigation, shaving of patient for operation, application of perineal dressings and precautions in the care of venereal cases. The last two lessons reach to preparation for venesection, lumbar puncture, hypodermoclysis, paracentesis of chest and abdomen, application of abdominal binders, then technique for clean and soiled surgical dressings, Buck's extension, use of sandbags, and operation of sterilizers and tanks.

"Now what are the four principal things to note in charting a patient?" one of the sailors was asked at this juncture.

"Temperature, pulse, respiration" (they all remember those three), "and—" he paused ominously, "and the date?"

A mocking laugh, especially loud by the bluejacket sitting next, who volunteered, "I know. Remarks."

"Remarks about what?" quizzed the instructor.

"Why, you must write down on the chart what the patient has to say, so the doctor can read it."

New Occupations for Disabled Soldiers

Putting disabled soldier farmers to work as grain inspectors has been arranged by vocational officers of the military training hospitals commission of Canada, who anticipate in this way solving the problem of caring for disabled farmers returned from the front. To discard their former training on the land and teach these men of the soil an entirely new occupation means that months must elapse before they can be restored to independence, the commission reports, while by utilizing this former training of the farmer-soldier, he can do a big work for the country and become at once economically independent again.

Some men still able to carry on in the lighter phases have been directed to poultry farming and many given special scientific training. Many have taken up tractor engineering in anticipation of the motor age in agriculture; still other occupations chosen are gardening, horticulture, and tree surgery. Grain inspection allows play for a man's technical training, even though in an entirely different field.

We cannot take up life where predecessors left off, but have to rebegin it. The frail philosophies that supported us in youth melt under the sun of experience and plunge us into the cold waters of fact. But the rediscovery of the universe in its special bearing upon oneself is the commencement of effectiveness and, therefore, of happiness.—Stephen Berrien Stanton, "The Hidden Happiness."

A PLACEMENT BUREAU FOR THE HANDICAPPED

Successful Record of the Handicapped Bureau of the State-City Free Labor Exchange of Cincinnati—Character of the Problem—Some Considerations Which Should Guide in the Placement of Handicapped Persons

By RUTH MONTGOMERY JONES, Supervisor of East Central District, Associated Charities, Cincinnati

FOR a number of years it was keenly felt in Cincinnati that special attention should be given to handicapped persons. Medical agencies were attempting to teach those persons disabled by disease to live in such a way that their handicap would be reduced to a minimum. This medical education accomplished little, if suitable employment was not available. The hospital social service and Anti-Tuberculosis League had the painful experience of having numerous cardiac and tuberculous patients return to them for treatment. Through force of circumstances a large proportion of these men and women had been permitted to resume former occupations that had probably produced and would surely aggravate their handicap. Others took the first work that presented itself, when proper vocational guidance and education would have enabled them to give a reasonable number of years of service to the community without injury to themselves or danger to their fellow workmen.

Mr. T. J. Edmonds, secretary of the Associated Charities, conceived the idea of establishing a bureau for the placement of handicapped persons. He had been studying the question from an economic standpoint and had been collecting information from case records of the Associated Charities and other social and medical agencies. He found that a large proportion of families with whom these organizations came in contact had their problem complicated by a physical or mental handicap. Failure to give them special attention at the time when they should readjust themselves to their changed condition was responsible for a great number dropping into the class of social debtors, while others who refused to become dependent struggled in an unfair industrial competition when education and intelligent placement would have made it possible for them to earn a living with much less difficulty.

During the time when Mr. Edmonds was making this social study, he was also collecting data regarding the attitude of employers toward the absorption of handicapped labor, and attempting to determine the type and number of handicapped persons employed and kind of work they were doing. In 1914 this information was given to the Council of Social Agencies, who made report on the subject. They estimated that various social agencies came in contact with about three thousand handicapped persons in one year's time, and that 75 per cent of this number were by nature or through force of circumstances breadwinners; that is, they should be the logical breadwinners, although not at that time providing for their families.

A meeting of various social agencies was called and at this meeting it was decided to inaugurate the work. The State City Labor Exchange was chosen as the most desirable agency from which to make the experiment. However, a period of industrial depression followed, which made it impossible to place even able-bodied men and it did not seem advisable to broach the subject of employment for handicapped persons. In 1916 the increasing demand on American industry brought about by the war so stimulated the labor market that we felt the time propitious to begin the work. Mr. Edmonds drew up the plans for operation, and I was sent with several well-trained volunteers to the State-City Free Labor Exchange to make a medical, industrial, and social investigation preliminary to establishing a handicapped bureau.

We began the work by following up 615 dismissed patients from the General Hospital and Municipal Tuberculosis Sanatorium, whom we presumed to be permanently handicapped, in order to determine their physical and mental and industrial status. Of these, 403 were located and 193, or 47.9 percent, were found to have a working capacity; 40.6 percent were unemployed; 53.4 percent had returned to old occupations; 16 percent had found new jobs.

Of the 615 cases 270 were arrested tuberculosis patients. We located 188, or 66⅔ percent of this number, and obtained information concerning them. Of those not located, 39 had moved away, and we could not trace the remaining 51. Forty-one, or 22.7 percent of those located, had died since dismissal from the hospital. Ninety-six, or 53.3 percent, were unable to work (55 of this number had returned to the hospital). Twenty-eight, or 15.5 percent, were working either at the Municipal Tuberculosis Sanatorium or in new positions. Fifteen had found new positions and 13 had returned to old occupations.

Fifteen, or 8.5 percent, were unable to work but unemployed. Of this number (180) 43, or 24 percent, had a working capacity. This was a

much smaller proportion than found in other handicapped groups, especially the cardiac, of which we found 80 percent employable. Of this group, 32, or 11.8 percent, were diagnosed in hospital records as first stage; 148, or 54.8 percent, in the second stage; 90, or 53.4 percent, in the third stage of disease. Moreover, 68.1 percent were moderate to excessive drinkers, and 48.8 percent had a venereal history; 51.8 percent lived in our worst tenement district.

These cases were followed up by personal visits, hospital Anti-Tuberculosis League, and other clinical records. Those patients not working were requested to report to the bureau, and our cards were left with those working, if we felt their employment unsuitable. A number of these patients have since applied to the bureau for work.

As all patients discharged from the Municipal Tuberculosis Sanatorium are sent to the Anti-Tuberculosis League for future observation, an arrangement was made with this dispensary, when referring cases to us, not only to furnish the bureau with a diagnosis of the case but to send us a form containing special information, such as the man's past occupation, the particular process, other industrial possibilities, length of time he should be permitted to work, under what conditions, and the nature of such work. After work was secured for the patients we requested them to report periodically to the clinic for observation, in order that we might know the effect of the work upon their health. Such information would help us greatly and guide us in the placement of similar patients.

Fig. 1. Interior of shop where several successful placements have been made. Picture shows back of an employee paralyzed in both limbs who was placed in this position by the Handicap Bureau. Without any previous knowledge of the work he has acquired sufficient skill in six months to more than triple his earning capacity. Photograph by Mrs. Alice F. Foster, Cincinnati.

One hundred and fifty employers were visited, and a study of the various operations in twenty-four representative factories was made for the purpose of finding appropriate work for the disabled man. Only 8 percent of these employers refused cooperation. Fifty-two percent offered to apprentice handicapped persons; 19 offered to use them if skilled workmen could be furnished, and the remaining 29 percent felt they could only use them for unskilled work. Such promised cooperation encouraged us to believe that our greatest difficulty would not be with the employer, who, we felt, had manifested unusual interest.

An objection given by about 50 percent of these employers was that a handicapped person is more liable to injury due to his physical limitations, therefore a greater risk, and in the event of accident, their rate of insurance with the Ohio Industrial Commission would be apportionately increased. Of these firms, 41 percent have since employed handicapped persons at our request, and 58 percent of those persons employed (from the last report) were still holding their positions.

There was a greater objection to employing tuberculous persons than any other handicapped class. Even when assured by physicians that the disease was quiescent, employers were loath to give them trial, which is the result of the splendid educational work accomplished by your medical agencies toward eliminating the White Plague. Often tuberculous patients are permitted to work only a portion of the day, or an average of about one-half time. The employer will not consent and cannot afford to give a place to a man working one-half time which could be filled by a man who can work whole time. The effect on other employees of permitting one man to come later or leave earlier, even when the reason is clearly understood, is detrimental to discipline. Concessions made to one workman are nearly always productive of trouble in the management of other employees. Even when we discovered two tuberculous patients experienced in the same process of industry we could not persuade the employer to use them in one position on a half-time basis for each.

On several occasions, after a great deal of effort, we found what we considered ideal places for tuberculous patients, only to have these positions rejected for some reason not given us when the application was made. After prevailing upon one employer to give a small amount of work which he was sending to another concern to a man experienced in that line of work, thus giving him about four hours' work a day, the applicant refused on the score that he thought it would be more advantageous to stay at home and assist his wife with laundry work.

Another young man was placed on a delivery automobile for one of our large department stores. He gave up the position after a few days'

work, as the compensation was smaller than that he had been receiving before handicapped. He had been assured when he took the position that he would receive a substantial increase as soon as he had had more experience, and would later be taught to drive the machine.

Our bureau has received 435 applications of handicapped persons within the last fifteen months, and from this number 58 temporary and 261 permanent placements have been made. These 319 positions were filled by 201 different persons; 218 more positions were procured which applicants refused, that is, definite jobs were promised by employers to particular applicants who either failed to report, took the job and after

Fig. 2. Miss Cora March interviewing an applicant whose duplex handicap rendered him a most difficult employment problem, but who was later successfully placed in clerical work in a large machine shop. Photograph by Mrs. Alice F. Foster, Cincinnati.

working a short time, left, or were dismissed. If this report of placement falls short of your expectation, possibly the following figures may account for what appears a small proportion:

Only 24 percent of our applicants were under 30 years of age; 18.7 percent were between 30 and 40 years; and 57.3 percent were over 50 years of age. Ninety-three, or 30.2 percent, of those from whom we obtained information regarding their educational equipment had less than a fourth-grade education. The next 170, or 56.4, had less than an eighth-grade, and only 14.5 percent had more than the grammar-school education. Only 9.4 percent had been handicapped for less than one year; 13 per cent had been handicapped between one and two years; 21.6 percent over two years, or less than five years; and 56 percent over five years, from childhood, or birth.

Might we not feel this group would be rated low as employable materials? Disabled persons were probably not aware of the existence of our bureau, or only appealed to us for assistance after exhausting other means to find employment.

We placed 80 percent of the recently handicapped men with half the effort spent in placing 30 or 40 percent of those handicapped for a year or more. In handling the crippled applicants referred by the Ohio Industrial Commission, we found it hard and tedious to place a man if he had been receiving compensation for a year or longer. We all know that the chances of industrially reclaiming the disabled man decrease in proportion to the length of time he is allowed to sustain his handicap in idleness.

Much effort can be wasted on poor material, that is, on men who have not worked for so long they have no desire or intention of holding a position. We believe we defeat our purpose and have not the right to sacrifice our future prospects of serving the handicapped by risking the confidence of employers by sending totally inefficient men, even if they will agree to give such men a trial after we have been perfectly frank with them.

The more important part of our task as handicap workers is, by conserving his work habits through useful occupation at the earliest possible time, to prevent the recently handicapped man from acquiring the invalid habit. Fifty-one, or 11.7 percent, of our applicants were tuberculous patients. We feel this is not a very large group from which to make observations or draw conclusions, but our findings may be of interest. Twenty-nine were married, 18 single and 4 widows. Thirteen were women and 28 were men. Forty-nine were white and 2 were colored. Fourteen were between 20 and 30 years of age, 18 between 30 and 40 years of age, 7 between 40 and 50 years of age, and 12 over 50 years of age. Nineteen were diagnosed as first-stage cases, 24 in the second stage, 4 in the third stage, two tuberculous bones and two tuberculous glands. Twenty-nine persons were placed in 41 positions, with an average of $6.90 wage per week for women and $11 per week for men.

We placed these people as watchmen, chauffeurs, drivers, solicitors, collectors, janitors, telephone operators, porters, florists, bill posters, art models in Ohio Mechanics Institute and Art Academy, messengers for the Western Union Telegraph Company, elevator operators, salesmen, artists, light skilled factory work and light outside labor.

Two of these patients have since died and four have returned to the hospital.

One man was placed very successfully as elevator operator in a factory where he did not have to handle freight; the elevator was open and the room well ventilated. Another was placed with a contractor for light outside labor, and had his wages increased from $9 to $12 per week in a very short time. The last report from his employer stated that they were using him in the office and his work was very satisfactory.

Another man with a wife and four small children dependent upon him for support had applied repeatedly to the exchange, which always favored him with most of the off jobs available. Consequently his earnings had been uncertain, and never sufficient to make ends meet. No work had come to the office which he was physically fitted to fill. He had conscientiously endeavored to the best of his ability to do all the work offered him, but his weekly earnings seldom reached more than $8 or $9. He was nearly desperate when referred to the handicap worker. He tried three jobs before one was found which he could hold and still earn a living wage. Finally he was placed with a contractor, as watchman, earning $14 per week. Arrangements were made to send his family to the fresh-air farm for a short time, just relieving him of the household expenses and giving him a chance to get a thorough start. He has held the position for nearly three months. The last report from his employer was that his work was more than satisfactory, his health improved, and he could have the position as long as he cared to keep it.

A great many things must be taken into consideration when placing a tuberculous patient. Each separate factory must be inspected before permitting these patients to accept positions in their employ. The work might be appropriate, but the working conditions might counterbalance everything else.

By making an intensive study of all employment, especially factory operations, we can undoubtedly find enough openings for all employable tuberculous patients. Intelligent placement requires the combined knowledge of social and medical workers and the cooperation of the industrial world. Mass treatment is not advisable, as each patient requires individual attention. Vocational education should proceed placement to get the best results. Unless a tuberculous patient can safely resume his former work, or during the convalescent period can be trained for suitable employment, a handicap bureau must experiment by testing his physical, mental and industrial capacity in several positions. Such repeated placements tax the patience as well as the good will of the industrial world.

Interim employment should be provided for these patients under medical supervision until such time as they can be permitted whole-time employment in the regular processes of industry. A suggested arrangement is a small workshop under business management and medical supervision, equipped with standard machinery, where the man could be educated for future occupation. This small laboratory should represent enough different tasks and industrial operations so that the man may have a selection in his work, and the physician should decide whether he has chosen suitable work. The physician should also regulate the number of hours of employment for each individual patient, and the man should be compensated for his services accordingly. Under business management such an enterprise might be almost if not entirely self-supporting.

All handicapped groups could be trained in this laboratory. In many instances a man's earning capacity may be increased, if a skilled workman is developed out of an unskilled laborer. This is well illustrated in the case of a young man, aged 24, whose lower limbs were paralyzed as a result of locomotor ataxia. Previous to his application at the handicap bureau, he had been braiding leather belts, never earning more than $6 or $7 per week. We prevailed upon an employer in Cincinnati who manufactures an adding machine to give him work. He was placed in the assembling department, assembling the small parts of the machine, and could sit while working. His beginning wage was $12 per week. When I visited him six months later, he had been advanced to $20 per week, and his employer told me he intended to make him a foreman of one department and further increase his wages. This firm has employed twenty handicapped persons since this placement at our request, which leads us to believe that it has found handicapped labor a paying proposition.

Most concerns assured us they had absorbed their own handicapped labor, although it was their experience that a man ceased to be a valuable employee after he became aware of their moral obligations towards him. When employing a man not handicapped in their own employ, the debt was reversed and gratitude and the dreaded difficulty of obtaining another position often made such employees more faithful.

In Cincinnati, Mrs. Edna Mill, present director of our handicap bureau, has an arrangement with the manual training department of our public schools to train all handicapped persons she

sends them and educate them in any line they desire. This work is being developed so that we may be prepared to reeducate the handicapped soldiers when they return.

Have we not every reason to believe that the proportion of younger handicapped persons, which form the most hopeful group and are the most valuable material, will be tremendously increased by the return of our disabled soldiers and sailors, whose handicap caused by war will not be different from that sustained or contracted in times of peace?

The Simons-Alexander bill, now pending in the Senate, provides for the reeducation of disabled soldiers, during which time they will receive compensation equivalent to that given during active service. Let us hope the time is not far distant when similar provision will be made for the reeducation of the industrial handicap and all other groups with compensation. A long period of idleness will have the same pauperizing effect on the military as on the industrially handicapped persons, and the two classes should receive similar treatment and attention.

THE HOSPITAL FIELD IN FIGURES—A SURVEY OF CONDITIONS AS THEY ACTUALLY EXIST

Number and Capacity of Hospitals and How Operated—Hospitals Classified According to Character of Work Done

By H. TUCKER McCLURE, Statistical Department, The Modern Hospital.

WHEN in September, 1913, The Modern Hospital made its salutatory bow to the hospital world, some statistics were presented to point out the possibilities of usefulness of such a publication as it purposed to be, and to define to some extent its scope of service. These statistics were taken from the most reliable compilations of hospital information then available, but it was soon discovered by those responsible for the magazine that even these compilations were undependable and very incomplete, and consequently an inadequate representation of the hospital field.

As an instance of the dearth of hospital data of real value at that time, it may be mentioned that several hundred hospitals not then included in any printed list were afterward found to be in existence.

In order to serve all of the hospitals in proportion to the importance of their peculiar relation to the entire field, the publishers of The Modern Hospital realized that it was necessary for them to know the field thoroughly. For more than four years, therefore, this magazine has been gathering facts regarding the hospitals and allied institutions of the United States, with the view of compiling and maintaining a complete register of these institutions, with accurate records as to their location, their capacity, the character of service rendered by them, etc. Much of this information has been obtained direct from the hospitals by personal visits of representatives, and through the courtesy of superintendents who have been kind enough to furnish written statements. Practically all of it has been verified, so that it is known to be approximately correct in every particular. To present the result of this work in toto would require an entire volume as large as the regular issue of The Modern Hospital, and would burden the reader with much tedious detail. It is believed, however, that a summary of the main outstanding facts will be interesting, especially to those who are taking an active part in the great constructive—or, perhaps, we may more properly say reconstructive—hospital movement of the day.

To begin at the end of the road, as it were, there have been found to be, in the United States and its territorial possessions, 8,654 hospitals, sanatoriums, and allied institutions, having a total capacity of 857,133 patients or inmates. Of these 8,654 hospitals, sanatoriums, and allied institutions, 1,665 are maintained entirely by public funds, and 6,989 are privately controlled. Three thousand one hundred and forty of the private institutions receive pay patients only, and 913 are operated by sisterhoods or brotherhoods of the Roman Catholic Church.

Under the designation of "allied institutions," as mentioned in this survey, are the following, all of which are known or assumed to be maintaining some form of hospital service for their inmates:

	Institutions	Capacity
Homes for children	722	107,588
Homes for aged	692	73,213
Rescue homes (for fallen men and women)	177	12,502
Homes for the deaf and blind	114	14,855
Total	1,705	208,158

Excluding these allied institutions, we have hospitals and sanatoriums proper to the number of 6,949, with accommodations for 648,975 patients. One thousand three hundred and eight of these

are maintained by public funds and 5,641 by private funds.

Classifying the hospitals and sanatoriums according to the character of the cases admitted, the result is as follows:

Class	No. of Institutions	No. of beds
General	4,716	263,815
Surgical	156	3,438
Tuberculosis	488	38,584
Mental and nervous	542	282,937
Children	59	7,081
Maternity	193	8,788
Contagious	164	17,324
Eye, ear, nose, and throat	61	2,211
Industrial	193	6,174
Cripples	37	2,376
Alcohol and drug addictions	82	3,030
Convalescents	50	3,992
Chronic invalids	55	3,459
Penal	75	3,566
Other special hospitals	78	2,200
Total	6,949	648,975

In reference to the foregoing table, it should be noted that the various special classes of institutions comprise only those hospitals and sanatoriums not operated as a part of, or in connection with, any general hospital or general hospital system. The number of beds given for maternity hospitals, for instance, does not include maternity beds in general hospitals. In the case of industrial hospitals it should be borne in mind that this designation applies only to regularly equipped hospitals maintained by private industrial establishments, and does not include dispensaries and first-aid stations maintained by such establishments, and sometimes considered as hospitals.

It is estimated that the average number of hospital beds maintained by the four classes of homes, which have been designated above as "allied institutions," will approximate 10 percent of their total capacity, or 20,816. This sum, added to the number of beds in hospitals and sanatoriums, produces a grand total of 669,791, which represents the part of the population of the country for which hospital beds are available at any one time. Basing our figures on the 1917 estimate of the Census Bureau, which for the United States, all territories included, was 114,201,039, this is one hospital bed for every 170 of population. Subtracting the number of beds in hospitals for mental and nervous diseases and convalescents, there are left 382,862 beds for what may be more appropriately termed hospital cases, or one bed to every 298 of population.

The ratio of hospital beds to population varies, of course, in different sections of the country. In Montana, using the 1917 census estimate, and omitting beds in hospitals for the insane and for convalescents, it is as high as 1 to 135; in Alabama it is as low as 1 to 739. Other states show up as follows:

New York (including New York City)	1 to 193
Massachusetts	1 to 181
New Jersey	1 to 293
Pennsylvania	1 to 254
Virginia	1 to 402
Indiana	1 to 315
Illinois	1 to 277
Kansas	1 to 362
California	1 to 147

Notwithstanding the adverse conditions resulting from the war, there has been a marked increase in hospital facilities in practically all of the states within the last three years.

An interesting aspect of the hospital situation not brought out by any of the figures given above is that, excluding homes and all state and large city institutions for mental and nervous diseases, approximately 69 percent of the total number of hospitals, representing 27 percent of the entire capacity, are institutions having less than 50 beds; and that approximately 85 percent of the total number of hospitals, representing approximately 40 percent of the entire capacity, are institutions having less than 100 beds.

It has been said that statistics may be manipulated to prove anything or nothing, according to the will of him who uses them. In presenting these figures, however, THE MODERN HOSPITAL has no motive but to bring about a clearer understanding of the hospital field as it actually exists, and to shed light on those portions of the field where it is most urgent that development be hastened. If this has been accomplished, the effort is well repaid.

Child Welfare in South Carolina

The December issue of the *Journal of the South Carolina Medical Association* is devoted to child welfare. It is said to be the only special number ever devoted to this subject by any state journal. Dr. E. A. Hines, the editor, who is also a member of the state board of health, became interested in the subject of infant mortality from the southern standpoint and was astonished and dismayed to discover through extensive research the meagerness of the literature bearing on infant mortality in the southern states. He therefore, with the aid of the department of vital statistics of South Carolina made a study of infant mortality with the cause of death and discovered the rate in South Carolina to be, in his own words, "appalling."

The Child Welfare Number of the *Journal of the South Carolina Medical Association* is a very creditable effort to draw attention to this problem, and induce the state to organize a division of child hygiene under a state board of health.

Never leave water dripping within the hearing of the patient.—Marie Robertson, R. N., in The Nurse.

THE CONTAGIOUS WARD OF THE MORRISTOWN MEMORIAL HOSPITAL, MORRISTOWN, N. J.

Problems Presented by Contagious Disease Hospital in Community of Moderate Size—Limitation of Cost During Period When Contagious Cases Are Few

By PALMER and HORNBOSTEL, Architects, and S. S. GOLDWATER, M.D., Consultant, New York

THE planning of a building for the segregation and care of contagious diseases in a community of moderate size presents many interesting problems. The fluctuating population of such a hospital has inspired numerous attempts to plan "elastic," "flexible," "extensible," and "adjustable" units. The present plan is one more such attempt.

In the planning of a building of this character, one of the principal objects is the limitation of the cost of maintenance during periods or seasons when contagious cases are few. If, for example, it is desired to provide a maximum of forty beds for a community having from twenty to forty thousand inhabitants, the plan should make it easy to put a large part of the building out of commission whenever the number of cases falls to a minimum.

The best results can be obtained by treating the contagious disease unit not as an independent hospital, but as a department of a general hospital. Under these circumstances, the contagious ward can share many of the facilities of the main plant.

The unit which is here presented is part of the Morristown Memorial Hospital, at Morristown, N. J. The building is situated on the grounds of the general hospital, and is set well back from the road and on the brow of a cliff; thus the building and its occupants are removed from any direct contact with the surrounding community. The long axis of the building runs approximately north and south; sun exposure is thus provided for every room.

The largest single ward contains four beds; in addition there are two-bed wards and numerous single rooms. Every patient's room has its lavatory and water-closet, so that bedpan corridor traffic may be entirely eliminated. Each patient's room may be entered either from the terrace, which surrounds the building or from the central corridor.

On admission or discharge, patients pass through the examining or discharge room, both of which open into an auxiliary corridor, which communicates with the three separate or separable sections of the main corridor, and which makes practicable the use of a single administrative center, even if it should be deemed advisable at any time to conduct a double ward service.

The present medical staff proposes that the hospital shall be operated on the "contact theory" of infection, which permits a single, properly trained nursing staff to care for a variety of diseases at the same time. If, however, there should occur an epidemic of a particularly severe type, the patients belonging to the group could be segregated in one section of the building, and all direct contact with the occupants of the remaining parts of the building eliminated. The central corridor is so arranged that the hospital may be operated as a single forty-bed unit, as two units of twenty beds each, as two units of twenty eight and twelve beds, respectively, or as three units of twenty, twelve, and eight beds, respectively.

The admitting room, discharge room, nurses' entry and exit, doctors' entry and exit, supply room, and surgical dressing room communicate with the auxiliary corridor, and have not been duplicated; the utility rooms, diet kitchens, and chart and linen rooms are offshoots of the main

Fig. 1. The new contagious ward of the Morristown Memorial Hospital, Morristown, N. J.

corridor and are duplicated, each arranged to serve one end of the building.

A novel feature is the arrangement of the "door-windows" of patients' rooms. Direct access to the terrace from these rooms was desired. The smaller rooms were too narrow to permit the use of both door and window, and our first impulse was to use a French door, which, while suitable for summer use, is not altogether satisfactory in this climate in winter. As a possible substitute, we next considered the triple sliding sash, which also has its disadvantages during the winter months. Finally we decided to use a double sliding sash for the upper two-thirds of the opening, and, for the lower third, a solid section consisting of two hinged half-doors. This combines the advantages of the wide-open French door in summer and affords the protection of a standard double-hung sash in winter.

Food and laundry service are to be furnished by the main hospital. Food-containers which are returned to the main building will first be sterilized in the diet kitchens. The basement contains both dry and wet sterilizers, the former for mattresses and clothing, the latter for soiled linen, which is to be suitably treated before it is sent over to the central laundry.

While there is an air space beneath the entire first floor, the cellar is fully excavated only where necessary. In the southerly extremity of the building, where the basement is well out of ground, three single rooms have been arranged

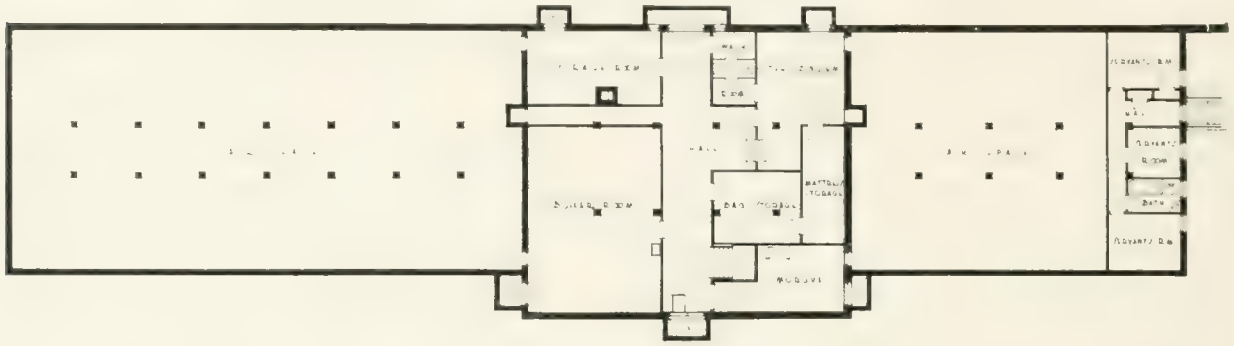

Fig. 2. Basement plan of the contagious ward of the Morristown Memorial Hospital, containing servants' rooms, boiler room, storage room, etc.

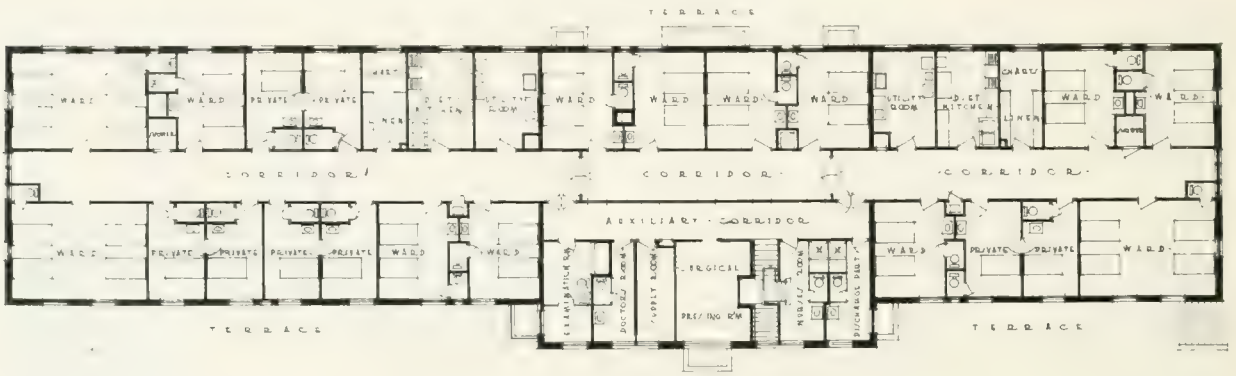

Fig. 3. First floor of the contagious ward of the Morristown Memorial Hospital. Note that the largest ward contains only four beds.

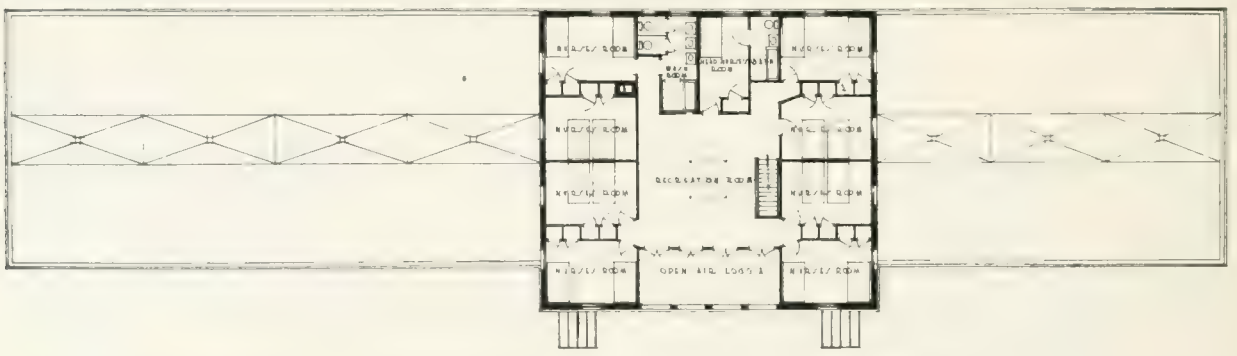

Fig. 4. Second floor of the contagious ward of the Morristown Memorial Hospital, containing the nurses' rooms.

for the servants. In the middle basement are the boiler room, a storage room, a room for the reception of infected material, sections for clean mattresses and patients' clothes, and a morgue.

The second story covers only the central part of the building, and is designed for the use of nurses. It contains eight double rooms, with common bath and toilet, a single room with private bath and toilet for the head nurse, a recreation room, and a sleeping porch. Nurses and others can obtain access to the second floor without entering any infected part of the building; therefore, this floor may, if desired, be used as an annex to the general nurses' home, or for other purposes apart from the contagious service.

The general finish of the building is in keeping with modern hospital practice. In the selection of plumbing fixtures, which are necessarily numerous owing to the character of the service, the choice fell on inexpensive patterns in order to keep down the cost of the building.

The collaborators wish to acknowledge their indebtedness to the medical staff of the Morristown Memorial Hospital and to Dr. George B. Landers, the superintendent, for suggestions and criticisms.

REFRIGERATION FOR INSTITUTIONS

Character of the Problem—Transportation as an Element—Uniform Low Temperature and Dry Air Necessary—The Case for the Refrigerating Machine

By G. H. WHEELER, New Brunswick, N. J.

EVERY large institution has a problem in refrigeration. This problem is more or less difficult to solve in direct proportion to the distance that ice must be hauled, the amount of goods to be stored, and the nature of the supplies to be preserved.

The very nature of an institution for the protection and building up of those who seek its shelter demands ample sunlight, fresh air, and, where possible, quiet. These various requirements make it necessary to avoid the centers of activity where noise is prevalent, sunlight scarce, and pure air at a premium. Consequently, the greater number of institutions are situated on high ground, well out in the country, where Nature's agents may be added to the skill of the medical profession.

This brings us to one of the refrigerating problems—transportation. When goods are hauled from one point to another, someone foots the bill. It may not appear as a direct charge against any particular department, but it is there nevertheless, and must be accounted for in the final analysis. Ice is heavy and hard to handle; consequently the labor item, particularly at this time, is a heavy one. The wear and tear on trucks must also be taken in account, because, if you buy your ice delivered, the selling corporation is adding depreciation on the per pound price; if you haul with you own trucks, the repair bills come out of your own funds. When ice is bought in large quantities, it is figured by the pound or ton. If you buy a ton, they deliver to the truck a certain number of cakes of ice of a certain weight to make the desired ton. This doesn't mean that you receive a ton—it means that you receive a ton, less loss by meltage en route, which during hot, sultry weather is heavy. This percentage ranges from 5 to 15 percent, depending, of course, on whether the truck is open or closed, atmospheric temperature, and time en route.

Where considerable distance separates an institution from its ice supply, uncertainty is another disconcerting factor that must be reckoned with, and this is one obstacle that is often impossible to overcome, because there are so many contributory causes for non-delivery of ice. Delay in delivering may mean loss by spoiling of supplies and interference with the duties of the housemen.

A true adage among market men is, "You must buy well to sell well." The institution must buy well to make a satisfactory showing. To buy well, it is necessary to buy in large quantities, and to be able to snap up first-class goods, when for any reason the prices are below the usual level. Where melting ice is the cooling medium, it is impossible to purchase in large quantities, because the lowest temperature that is obtained in the average ice box is about 45°, which temperature rises as the ice diminishes, until probably 50° is attained before refilling. Even though it were possible constantly to maintain 45°, it would be out of the question to preserve meat successfully for more than a few days, because ice, in returning to a liquid condition, releases a high percentage of moisture, which impinges itself on the walls, floors, ceilings, and contents of the compartment. A moldy condition of the meat soon results. It becomes discolored and spongy, necessitating close trimming before serving. Meat at present prices is entirely too expensive

and valuable a commodity to be trimmed off and thrown out, and, furthermore, the meat beneath the surface, even though not discolored, is far below the proper standard of quality for maximum nourishment and palatability.

Uniformly low temperature and dry air are essential for the proper preservation of perishable foodstuffs for any protracted period. Such conditions are possible only where artificial refrigeration is employed, and it is interesting to note that a large number of institutions are enjoying better refrigeration through the employment of private equipment.

The smaller types of refrigerating machines for many years were hidden from the view of the general public by a haze of misunderstandings and a deal of mystery attached itself to the mechanism that changed rooms into polar retreats, as it were, during the severe heat of mid-August. This apprehension was not surprising, however, because the early ice machines were built in large commercial sizes only and were operated under the watchful eye of an experienced refrigerating engineer. When the smaller units began to appear on the market, the public drew back into its shell, fearing even to consider a piece of mechanism distantly related to the great machines they had seen in ice factories, hotels, etc. The public's lack of enthusiasm was not founded entirely on fear and imagination; in fact, there was an excellent case against some of the early attempts at ice machines, which were liable to perform nearly every mechanical function except that of producing low temperatures. As time went on, the manufacturers began to appreciate the fast-widening field that existed for the small unit, and began to eliminate all parts not absolutely necessary and to bring to a practical working basis plants of small capacity, so that today there are many ice machines ranging in size from half-ton refrigerating effect up per day that are as efficient as the large machines, and so easily operated that the average or below average engineer or houseman can obtain the best possible results without interfering with his usual duties.

The principal perishable supply divisions are meat, dairy products, and vegetables, so that the average institution when installing an ice machine provides for cooling a three compartment refrigerator, one for each of the above-mentioned divisions.

All refrigerating installations begin with the compartments to be cooled. This means that you must first determine the maximum quantity of goods that will be placed in storage and the length of time they will remain there.

The greatest care in designing a plant is necessary to restrain the commissary department from proving exactly why they need a box twice as big as they eventually discover is required.

There are two general types of refrigerators; the one most frequently used is the overhead bunker type. In this case the coils and tanks are placed entirely overhead, the air circulation being induced by sloping the floor of the bunker or coil loft sharply to the rear. This gives swift air circulation, and none of the storage space in the lower part of the refrigerator is interfered with by the cooling coils or tanks.

The other type of refrigerator has the coils and tanks on the side walls. By this means you can get a lower temperature than by the overhead bunker type, but, unless aprons or baffle plates are located in front of the coils, poor air circulation will result and the ceiling and perhaps the side walls are liable to collect moisture by condensation. This is a very unsatisfactory condition and not only is unsightly and nonhygienic, but does not properly preserve foodstuffs.

Many refrigerator linings are available. The majority of refrigerators are lined with spruce, which is odorless and entirely satisfactory for average service. At an additional cost, however, you can have galvanized iron, enameled iron, or opalite glass, the latter being the most expensive and most sanitary, but it has the disadvantage of being in constant danger of cracking from rough handling of pans when storing goods.

The insulation of a refrigerator for a temperature of not lower than 35° should be constructed of approximately four ⅞-inch T. & G. boards, 2-inch thick cork board if obtainable, otherwise 2 inches of granulated cork, and eight layers of waterproof paper. There is no better investment than good insulation, and it would be a comparatively easy matter to point out this fact were it not that cold air is invisible. No one would consider using a boiler that was losing steam at every joint, nor would anyone consider a water tank that continually leaked; yet the very strongest arguments sometimes fail to convince purchasers that good insulation is absolutely necessary for first-class results. Some refrigerator owners will haul ice for miles, pay their workmen to place it in the box, and yet will hesitate to spend a small amount to conserve their refrigerating medium by applying heavy insulations after they have gone to all this time, trouble, and expense to secure it.

The meat compartment of the refrigerator should be provided with galvanized iron, rails, and hooks, with a small number of either gal-

vanized iron or wooden shelves. The vegetable compartment should be provided with heavy shelves in a portion of the compartment; the dairy compartment should have a large number of shelves, the exact number to depend on quantity of material to be stored.

Should actual ice be necessary, either for ice packs or for some other purpose, such as freezing ice cream, etc., the refrigerating system can be hooked up or connected to an ice-making set of the required size, and the ice may be frozen at the same time the refrigerating effect is being secured in the refrigerator.

An ice-making set is a very simple piece of apparatus consisting of a steel tank heavily insulated and provided with what is termed "bridging" for the top of the tank to support the ice cans, which are allowed to extend down into the salt brine which has been placed in the tank. Ammonia coils extend up and down between the rows of cans to secure the cooling effect.

Manufacturing ice merely involves filling the cans with water and removing them when frozen. By having your own ice-making set you are absolutely sure of the source of the water from which the ice is frozen, and your ice supply is always at hand.

The actual refrigerating machine that performs the work of producing low temperatures may be located at any point convenient to your engineer, although it is an advantage to have the shortest possible distance separate the machine from the compartments to be cooled.

A refrigerating machine is a compressor which handles the cooling medium in a gaseous condition, compressing it to a comparatively high pressure, driving it over to a condenser where it is returned once more to the liquid state, ready for re-expansion. The most generally used medium is anhydrous ammonia, because it is easily obtained throughout the country, has a high latent heat, and does not require high pressures (the average being about 160 pounds). Because of the pungent odor a leak can be detected before serious loss of the ammonia has occurred. In the carbonic system oil of peppermint or camphor is frequently put into the refrigerating machine so that any leaks in the carbonic piping may easily be detected.

Second only to anhydrous ammonia, carbonic acid gas (carbon dioxide, CO_2) is the refrigerating medium most frequently employed commercially, because it embodies many of the characteristics necessary for the production of low temperatures on an economical basis.

Carbonic acid gas is cheap, odorless, and easily obtained, but many engineers object to it because of the high pressures necessary for condensation. The average carbonic machine operates with a condensing pressure of approximately 1000 to 1200 pounds per square inch, whereas the ammonia machine operates at a pressure of from only 150 to 175 pounds per square inch. The carbonic machines are of course constructed to withstand this pressure, and, while operating engineers frequently encounter difficulty in maintaining tight stuffing boxes and by loss of the gas, this is generally their own fault, as the stuffing boxes on the carbonic machines have been greatly improved and are now almost perfect.

A refrigerating machine may be operated by any available source of power the cleanest and most convenient being an electric motor, but a large number of plants are operated by gasoline or kerosene engines, or by steam drive.

Many institutions throughout the country have installed their individual refrigerating plants, and their recommendations have convinced many others of their efficiency, which indicates that apparatus of this type is most certainly a paying investment.

To sum up the whole situation, you have better refrigeration, cleaner ice at a decided saving in labor, and the expense of operating a refrigerating plant is in the majority of cases only about 50 percent of the cost of ice.

Hospital Slang

Workers in every trade have their own particular slang to describe their labor and their tools and the common every day views of their working lives. Physicians, interns, and nurses have their own brand of English, and here is the vocabulary that will be familiar to many readers who have spent some of their lives in the hospitals:

Father Superintendent.
Mother—Superintendent of nurses.
Probe—Probationer.
Middler—Nurse in her second year.
Swipe—The nurse in the operating room who waits on every one and doesn't scrub up.
Lap—A laparotomy operation.
Hypo—Hypodermic injection.
The O. R.—Operating room.
A fast call—Accident or emergency case brought in by ambulance.
O. B. S.—An obstetric case.
Internitis—Affection for interns.
My p. m.—An afternoon off duty.
Doing up a patient—Giving a patient his daily bath and treatment.
Morning glory—Epsom salts.
Bugoleum—A mixture used for pediculosis.

An army of young recruits had been maneuvering all the afternoon, and there had been many brilliant instances of attack and defense in the mimic warfare. At length a white flag was hoisted. The officer in command of the attackers started in amazement. "A flag of truce!" he exclaimed. "What do they want?" A sergeant-major endeavored to cover up a smile. "They say, sir," he reported, "that, as it's tea-time, they'd like to exchange a couple o' privates for a can of condensed milk—if you can afford it!"—Canadian Nurse.

NEW NURSES' HOME FOR MINNEQUA HOSPITAL, PUEBLO, COLO.*

An Attractive Home Built in Spanish Mission Style—Homelike Aspect of the Structure —Social Side of Life Fostered by Recreation and Instruction

By R. W. CORWIN, Chief Surgeon, Minnequa Hospital, Pueblo, Colo.

THE nurses' home for the Minnequa Hospital at Pueblo, Colo., as its name implies, was built in order to give the nurses a real home, and every effort has been made to achieve this result. While the building is extremely simple, within and without, nothing has been omitted in furniture and equipment to make the building an ideal place to live in.

The building was located in the beautiful hospital grounds at some distance from the hospital. It is shaded by fine trees and has a sunny south exposure. One could not find a more delightful site for a residence.

In style, the building is "Spanish" or "Mission." It is two stories high. The wall surfaces are plain and stuccoed in gray, the desire being to relieve the severity of the building with an interesting sky-line and well proportioned masses, rather than with elaborate details. Interesting features are the tower at the entrance, capped with a Moorish dome in plaster, and the rugged outside stairway which leads to the roof of the sun porch and which serves also as a fire-escape.

The living room, on the first floor (28 by 56 feet) has exposure on three sides, the north, east, and south, and from two doors leads to the glazed sun-porch on the east and south. The reception hall is spacious and opens into the living room through a wide arch. These rooms center their interest in the massive fireplace, built to receive six-foot logs. The reception hall and living room are paneled with richly grained fir which has been stained a soft silver gray, and the walls over the paneling are tinted old rose. In planning these semipublic rooms the desire was to open them together, and the sunporch has a polished oak floor continuous with that of the living room. Here dances and entertainments are given. Nothing that might give a homelike and attractive touch has been spared in the way of furnishing. The living room and hall are furnished, for the most part, in silver-gray wicker with upholstery figured in bright colors. For the floor there are oriental rugs.

Fig. 1. The new nurses' home for Minnequa Hospital, Pueblo, Colo., Wil iam White Stickney, architect, a gray stucco building in Spanish Mission style.

*This article is the third in a series of articles on nurses' homes. The first article, which appeared in January, was by Olof Z. Cervin, and was entitled "Nurses' Homes and Some of their Requirements." The second, by C. Happersett and Louis H. Rush, was on the "Kistler Memorial Home for Nurses of Lock Haven Hospital," and appeared in February.

The dormitory quarters have been shut off from the reception room as far as practicable in order that nurses may sleep in quiet at all times. The quarters for the nurses on night duty are particularly protected against noise. All of the bedrooms are large and comfortable, and sufficient in number to accommodate fifty nurses. Each room has a clothes closet, and lavatory with hot and cold running water. The woodwork of all rooms is finished with brown oak stain. The floor is polished, and the walls tinted in soft attractive colors. Each room has a brass or a mahogany bed, an attractive bureau, chairs, and rugs. A feature which has been borrowed from the better-class hotels and clubs is the slat ventilating door.

Fig. 3. Living room in the Minnequa Hospital nurses' home, an attractive room finished in silver gray and old rose.

Each room is equipped with this in addition to the solid wooden door, giving privacy and cross-ventilation at the same time.

There are five bathrooms, two on the first floor and three on the second floor. Some of these are equipped with tubs which finish tight to the floor and walls, and others have showers. Each bathroom has a toilet and lavatory, and these have been so arranged as to give privacy for each fixture. All bathrooms are finished in tile, marble, and white enamel paint.

The building is electric-lighted, and heated with a vapor system of steam supplied by the central heating plant of the hospital. In the basement is a large, well-lighted storage room for trunks. Here also are laundry facilities where light laundry may be done.

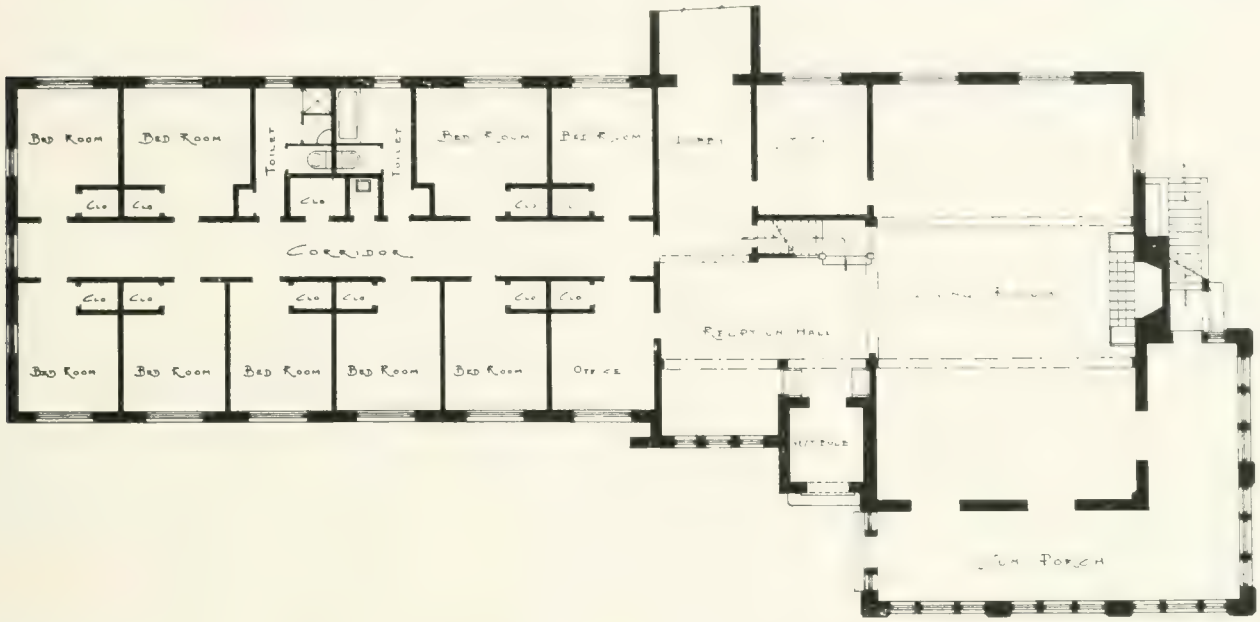

Fig. 2. First floor of the Minnequa Hospital nurses' home. Note the issolation of the sleeping quarters from the living room.

It is planned to give special attention to the social side of life, and already arrangements have been made for speakers to discuss topics of the day, and for musical and literary entertainments to be given as frequently as is consistent with thorough work.

In the near future, this and all other buildings connected with the hospital will be supplied with filtered water from a central filtering station.

"There is no place like home." This home is no exception to the rule. Already its influence is manifest. Nurses are happier, study harder, laugh louder, and eat more. It may not be out of place to state here that, in addition to the present lecturers, a special teacher has been employed to instruct the nurses in their lessons and work, and this has proved a decided advantage in their training.

You cannot believe in honor until you have achieved it. Better keep yourself clean and bright; you are the window through which you must see the world.—George Bernard Shaw.

Bids have been invited by the Brookville Hospital Association, Brookville, Pa., on the erection of a building for general hospital purposes, estimated to cost $40,000. Accommodations for 40 patients will be provided.

STANDARDIZATION OF HOSPITALS—CLASSES XIV, XV, AND XVI, INSTITUTIONS FOR NERVOUS AND MENTAL DISEASES

Class XIV, State Hospitals for the Insane and Epileptics—Class XV, Private Sanatoriums for Mental and Nervous Diseases—Class XVI, Private Sanatoriums for Patients Addicted to Alcohol and Narcotics

By JOHN A. HORNSBY, M. D., Chicago, in Collaboration with MISS MARY WHEELER, Principal of the Illinois Training School, Chicago; DR. SOLOMON STROUSE, Former Pathologist in and now Member of the Medical Staff, Michael Reese Hospital, Chicago; MISS RENA S. ECKMAN, Former Dietitian, Massachusetts General Hospital, now of Teachers College, Columbia University, New York; DR. J. T. CASE, Roentgenologist, Battle Creek, Mich.; DR. EDWARD S. BLAINE, Roentgenologist, Cook County Hospital, Chicago; MR. E. C. LARSON, Former Accountant, now Assistant Superintendent, Michael Reese Hospital, Chicago; MR. MICHAEL M. DAVIS, Jr., Director, Boston Dispensary, Boston, Mass.

WE have taken the liberty of grouping Classes XIV, XV, and XVI because the underlying principles in the administration of one will apply to the others. The marks for the classification will be the same in the three cases, and in this discussion we shall try to develop some of the points that must be taken into consideration in the equipment, organization, and the administration of the several classes of institutions for nervous and mental diseases.

It is only within the past twenty-five years that any serious attempt has been made to give more than custodial care to the nervous and mental diseases. Bars and shackles and various physical restraints were formerly the agencies of first importance, and when such patients were sick enough to be consigned to an institution the physician was relegated to the background and the jailor took his place.

Because these patients were usually violent, almost always irresponsible, and hardly ever mentally equipped to protect themselves from abuse, the hospital for the insane and for mental diseases earned a reputation for brutality and cruelty that has persisted in many places even to the present day. The public hospital for the insane was a notorious disgrace to civilization, not only in this country, but throughout the world.

We cannot say whether a new humanitarianism throughout the social fabric has been responsible for radical reformations in the treatment of this class of diseases, or whether the change has been due to the advances in medical science, but it is certain that at this time insanity and the nervous diseases are regarded by enlightened people everywhere in precisely the same way that other physical diseases are regarded. And it is also certain that in state hospitals and in institutions of every sort for the care of mental diseases there is a definite atmosphere that demands not only humane treatment, but an enlightened and scientific effort to get at the cause of the disease and to cure the patient, if that be possible.

Of course, many mistakes are being made due to faulty knowledge of pathology of many of these obscure diseases, but we have at least come to recognize the necessity of having as a part of the equipment of these institutions a very thorough-going pathological department and a trained staff of specialists in these classes of diseases; and, of course, this is a long step toward the study of causes and the application of treatment.

Medical scientists are now bent upon attempts to cure some well-recognized forms of mental disease that only a little while ago were regarded as incurable, and in every respect absolutely hopeless, such, for instance, as dementia precox, regarded until very recently as a progressive and absolutely incurable affection, but now well within the scope of the student of therapeutics.

But as this is not a dissertation upon diseases, but merely an offer of some suggestions by which the institution manager may best care for certain classes of diseases to meet the requirements of medical science, we shall not particularize farther, but discuss somewhat briefly some of the high lights necessary in the consideration of architecture, equipment, and administration.

The old French, German, and English pictures of hospitals for the insane showed great gloomy edifices almost like a modern office block, different only in that they had small, well-barred windows and very thick walls. Sunlight and pure air seemed to mean very little in such institutions as "Bedlam," and the housing and secure custody of the greatest possible number of irresponsibles seems to have been the one uppermost thought.

Thirty years ago there came an epoch in which the small pavilions, spread out over large areas of park, came to the front. Dr. Dewey, of Wisconsin, seems to have been one of the pioneers in demanding small, one-story cozy-looking buildings for the insane. This type of architecture

commended itself to progressive specialists in mental disease because of the possibility of individualizing patients and of getting them out of doors and into the sunshine and fresh air. With this epoch came also the demand for the location of these institutions out in the country, and this demand had too for its object the pure food that might be found in the country—milk, eggs, and fresh vegetables.

The next thought was that perhaps exercise and some consistent profitable occupation might be a good thing for certain types of the mentally diseased, and selected patients were put at little occupations on the farms of these country institutions. The scheme worked out well and a great many patients improved under the out-of-door possibilities and in virtue of physical work.

With this epoch began to recede the demand for physical restraint. Narcotic drugs had already taken their leave, and the bromides, so much in evidence for a hundred years, began to be supplanted by work therapy.

Then came the water cures and various springs, and chemical waters had their day. But patients seemed to do about as well under one class of waters as under another. But the water cures were well defended, great corporations and even governments built institutions around certain springs, and when the public and the medical profession began to lose faith in the specific curative qualities of chemical waters, baths of various sorts were proposed, using, of course, the chemical waters on which so much money had been staked, but then it was found that almost any kind of baths did about as well as those in which chemical waters were used.

It can be easily judged that in this way we were beginning to arrive at some pretty definite standards of treatment for the mentally diseased, even though the pathologist had not given us very much of scientific value upon which to base such treatment, and most of it was purely experimental.

While this evolution in the custodial care and in the treatment of mental and nervous diseases was going on, there were some economic phases that had to be considered. The housing of irresponsibles in small detached buildings where only a few patients could be grouped together was extremely expensive; it required a great many attendants; the difficulties of the food problem came to the front and the other domestic necessities, such as nursing of bed patients and the housekeeping.

Then came a change in the architecture of institutions for the care of these classes of patients, and the hotel type was conceivably possible in the direction of economy and ease of administration. The food problem became easier in that type of construction and the nursing problem. and it was more economical to clean a well-constructed large building than it was to clean a much larger area of isolated small buildings. Medicines could be more quickly distributed and with far greater responsibility, because more centralized. This type of construction was also helped materially toward popularity by being fireproof; the small isolated buildings had never been fireproof, and as they were still supplied with bars and restraints, the dangers of fire were great. Fireproof construction practically eliminated the dangers of fire to these irresponsible classes.

So that today we do not see the reasons for scattering such an institution in the form of one-story buildings over a large area, but we do find it necessary to provide for plenty of sunshine by way of large windows, good elevator service, good ventilation, economical and labor-saving methods of food distribution, and the necessity is emphasized for a class of construction that will permit the economical and perfect cleaning of all parts of the institution. Cleanliness is greatly aided by concrete or composition floors, round bases, hard plaster, and single-panel doors. We are still finding it necessary to continue metal bars, but for the psychological effect, we are obtaining these barred windows by the use of metal window frames with very small spaces for the glass, so that even if a patient broke the glass of a window there would not be space enough for him to get out. There is no doubt that this camouflage is responsible for many quiet patients, who would fret if they found themselves in what they knew to be barred windows.

Some institutions have felt the necessity of continuing a considerable segregation of patients, even when fireproof construction is used, and colonies of various types of patients are planted on different parts of the area within the inclosure. There does not seem to be a very good reason for such segregation, and to our way of thinking, the high, modern building with segregation on the different floors and with easy communication answers every reasonable purpose.

In this block type building an elaborate bath suite and hydrotherapeutic treatment rooms can be centralized and of easy access from any part of the house. The ambulatory patients can be assembled for meals without going out of doors and can be waited upon far more economically; they can also have better food, or at least food served better—the hot things hot and the cold things cold—in such a building. It goes without

saying that patients who must be fed at their beds or in their rooms can be more economically fed and far more satisfactorily than where the food has to be carried outdoors into far-separated buildings.

THE MEDICAL STAFF

If there is any place in modern medicine where group diagnosis is of value, it is in these special classes of diseases. The ground covered under the one heading, "mental and nervous diseases," is tremendous, and even if the cause and the cure could all be focused immediately upon the brain and nervous system, there would still be room for the coordinated abilities of many specialists in such an institution; but where many of these diseases are obviously due to purely physical causes residing elsewhere in the body, it has become absolutely necessary to have the advice and study of specialists in almost every branch of medicine. The case of an epileptic may be purely surgical and remediable by surgical interference; in certain classes the field is that of internal medicine, such as in post-typhoid manias; joint work on the part of the obstetrician and the internist may be necessary in other classes of cases, such as the post-puerperal manias—and so on throughout the whole gamut of these diseases.

Therefore, in creating the medical staff for a state hospital, or for a sanatorium for the nervous and mental diseases, every branch of medicine must be represented, with emphasis, of course, on the department of mental and nervous diseases. The surgeon will always be needed, although he may not have very much to do, and even the dentist has his part to play. So that a proper staff would not differ widely from that of a general hospital, except in the overemphasis of the one department, and to our way of thinking the chief of the department of mental and nervous diseases would be the chief of the staff and all cases would be referred by him to the other departments.

It has always been the rule that these institutions should have superintendents who are very much more medical men than administrators. We think the time is past for this viewpoint, and that the future is to develop the fact that the well-trained hospital administrator will be the ideal man to handle the administrative problems of these hospitals, just as he handles those of the general hospital, leaving the trained alienist and psychiatrist to prosecute the scientific work in his clinical field in a more concentrated and care-free way.

THE PATHOLOGIC DEPARTMENT

If we are arriving at a point where we are really considering the scientific diagnosis and treatment of these classes of cases, it is obvious that the clinician must have access to the services of the up-to-date scientific pathologist, and this department will differ in no respect from that of the well-equipped general hospital. The laboratory equipment will be the same, and the only difference will be that the pathologist will have to give special study to the types about which he is to be consulted. But there is no special pathologist for this type of institution, except that one trained individual will have focused his attention, researches, and study upon that particular type of disease, just as in the surgical hospital the pathologist will have studied more carefully the pathology of neoplasms, etc. We are just now building a school of neuropathologists, or at least developing a school so that it shall have distinct characteristics as compared with the surgical pathologist and the pathologist in other fields.

X-RAY DEPARTMENT

Just as we are developing a distinct neuropathologist by reason of recent researches and the concentration of able men upon the problems in this field, so, too, we are developing a definite neurological x-ray field, and the radiologist in such an institution must work very close to the clinician. Not very many of the distinct nervous and mental types are to be diagnosed by the x-ray, but a good deal of important work is being done in the hypophyseal area, and the radiologist must concentrate his attention upon the clinical findings while he attempts with his fluoroscope or plate to outline variations from the normal. An extraordinarily good x-ray machine will have to be employed if any assistance whatever is to come out of the x-ray laboratory in these institutions, and the head of the department will have to be relied on for the rest.

Other departments do not radically differ from similar departments in general hospitals or institutions of other types.

THE PSYCHOLOGICAL FACTORS IN ADMINISTRATION

Psychology is a tremendous factor in the conduct of any institution for the care of the sick, and we must always think in terms of imagination about patients. But this psychological factor is of even greater importance in the institution for the care of mental and nervous diseases. The first thing that the administrator must think about in the care of a patient is how to make him comfortable and at ease. When we have done

this we have given the doctor the best possible atmosphere in which to do what he can. Every institution of this type is a school for the training of students in psychology, beginning with the chief of the staff and ending with the fireman out in the power plant. Every one has a certain part to play, and in proportion as he or she neglects to think in terms of the psychology of patients, his or her work will be well or badly done.

To tell a nervous or mentally diseased patient that he must do this, or that he cannot do that, is invariably adding to the task of the doctor, and yet it is absolutely necessary that all the administrative factors shall "play up" to the doctor and help him influence the mind of the patient. Mental discipline is one of the chief agents that the doctor employs in the treatment of a mental disease, but the discipline must be so tactfully employed that it will not fret the patient. The clicking of the valve in the float-valve type of radiator may keep a nervous patient awake all night, and may make him very much worse in the morning; the flickering of a light in the hall, through the transom, may do more harm than weeks of properly applied therapeutics can overcome.

The little irritants can become very great impediments in the way of a cure. If a patient cannot have something that he wants, or thinks he wants, it is the business of the nurse or attendant to see that he ceases to want it—not merely to keep him from having it. The maid who comes to clean the room of a private patient can irritate a nervous woman so that the effects will last throughout the day, and the maid, not being a psychologist, would hardly know how to conduct herself in the presence of a nervous patient unless she is taught. A telephone ringing in the hall has been known to set a patient into wildest sort of nervous condition. The patient "just knows" that some one is ringing to tell her that something dreadful has happened at home and the bad news is being kept from her; the patient is prostrated in the morning because her imagination has been at its devilish work all night, whereas if some one, the nurse or attendant, had casually suggested that the noisy ringing was due to the stupidity of the telephone girl, who happened to be looking for the housekeeper, the irritant would have been removed at once.

We are not going into the question of the serving of food to this class of patients. If the patient can have only tea and toast the well-trained nurse or attendant can make even the most unreasonable patient realize that the tea and toast is not only the best ever served, but that it is exactly the sort of thing to insure a good night's rest or to ease a pain that the patient happens to have. Parenthetically, we might suggest that about nine-tenths of the trouble over the food of patients in general hospitals is due to want of psychologic insight and tact on the part of the doctors and nurses. Every effort ought to be made, of course, to see that these patients have attractive food and articles that they like.

WORK THERAPY

There is so much to be said about the occupation, entertainment, and diversion of patients suffering from mental and nervous diseases that one hardly knows where to begin. After all, of course, the doctor must prescribe whatever occupation the patient may have; but very many doctors slight this factor in their treatment of disease and rely on the hospital administrator to look after the patient's welfare in everything except the administration of drugs and any special treatment that he may want administered. The wise administrator will try in every way that he possibly can to develop an atmosphere that has for its prevailing feature the occupation and diversion of his patients. Most medical men are entirely receptive in the matter, and if the administrator will keep on applying his psychology to the doctors, as well as to the patients, he can get his doctors, in a short time, to recognize occupation, entertainment, and diversion as a definite and concrete part of his treatment.

After the doctor has "prescribed" a certain amount of occupation for a given patient, it then becomes the administrator's duty to apply the treatment. If he were to tell the average institutional patient that he had to sweep certain floors or clean a certain number of rugs or spend a certain number of hours helping in the linen room or in the kitchen, he would probably be met with a prompt refusal, and the patient would tell him he was in the institution to be treated for an illness, and not to work. But if the administrator made it quite plain to the patient that the doctor had prescribed a certain amount of exercise for him, and that he, the administrator, was finding difficulty in securing the right sort of work, and then take the patient into his confidence by means of a conference as to what was best to be done about it, in nine cases out of ten he would have that patient suggesting for himself the very thing that the administrator wanted him to do. The way to drive a pig down a lane is to make him think you want him to go the other way.

BOOKKEEPING FOR SMALL HOSPITALS AND ALLIED INSTITUTIONS

Definitions, Rules, Forms, and Examples of Entries in Single and Double Entry Bookkeeping for Small Institutions

By HERBERT K. CARTER and CHARLES A. PORTER, of the Staff of The Modern Hospital.

THE importance of complete and comprehensive records of all the business transactions of a hospital or allied institution is generally recognized and appreciated, but many of the smaller institutions are handicapped in securing such records because they have not in their employ a person who understands the principles of accounting, and in many instances they are without a practical bookkeeper.

Proper records give the executive not only a complete grasp of current business transactions, but a knowledge of the financial condition of his institution, and, when properly kept, furnish a basis for planning future policies. They also act as a legal protection for the superintendents and other executives. Many institutions have suffered financial losses, and a number of executives have been subjected to severe and frequently unjust criticism and embarrassment, through lack of a correct record of transactions.

It is the purpose of this article to explain the simple forms and principles of single and double entry bookkeeping and to give the rules which govern all bookkeeping. The principles are few, but they have a wide variety of applications.

Owing to the complex transactions involved in the business of hospitals and allied institutions, double entry bookkeeping is the best method of recording them. The three principal reasons are: first, because of the element of time which enters into the transactions; second, because there are internal and external checks which guard against error and help to prevent fraud; and, third, to obtain proper statements of the operating cost and standing of the organization in minute detail for comparative purposes.

These statements can best be obtained from a double entry system which shows a complete record of every transaction on both the debit and credit sides of the various accounts. An account is kept with every element of the business, such as personal accounts, supplies, capital, real estate, cash, loans, mortgages, etc.

In double entry bookkeeping for small institutions it will be necessary to keep the following books: Journal, Cash Book, Invoice Book, and Ledger. Larger institutions which have in their employ a person experienced in bookkeeping and accounting practice keep a more complete and detailed record of business transactions, and therefore use a larger number of books and forms. An accounting system for such institutions will appear in later issues of The Modern Hospital.

The following is a list of definitions governing all bookkeeping:

DEFINITIONS

Bookkeeping is a systematic record of business transactions.

The Object of Keeping Books is to enable the executives of an institution to ascertain at any time with ease and certainty any particulars regarding its financial affairs.

A Business Transaction is an exchange of things or services worth money.

There are two systems of bookkeeping—namely, single entry and double entry.

Single Entry Bookkeeping shows only personal accounts in the ledger, and entries are made only when a personal account is affected. It shows assets and liabilities in part only.

Double Entry Bookkeeping gives the assets and liabilities in full, together with gains or losses and their sources. Every transaction necessitates the debiting of one account and crediting of another. Accounts are kept with things as well as people.

An Entry is a record of a business transaction.

An Account is a collection of items appearing under one caption in the ledger.

The two general classes of accounts are *Financial* and *Business.*

Financial Accounts are those relating to money or its equivalent, such as cash, bills receivable, bills payable, personal accounts, etc.

Cash is money, and includes funds in bank, checks, and bank drafts.

Bills Receivable are written promises of payment to the institution.

Bills Payable are written promises of payment by the institution.

Personal Accounts are the accounts of the institution with individuals, firms, or corporations.

A personal account is debited when an individual gets into the debt of the hospital, or the institution liquidates an outstanding obligation.

A personal account is credited when the institution incurs an obligation or an individual liquidates his debt.

Business Accounts deal with *things* other than

cash, such as real estate, equipment, materials, expense, etc.

The Expense Account is an account of convenience, and includes all amounts expended in the operation of the institution.

An Asset is anything of value owned by or owing to the hospital.

Liabilities are debts, and include all that the institution owes.

Debit (*Dr.*) indicates that the person or account with whose name it is connected has become indebted to the institution, or that the institution has liquidated its debt.

Credit (*Cr.*) indicates that the institution is indebted to a person or account, or that the person has liquidated his debt to the institution.

A *Consignor* or *Vendor* is the seller or shipper of goods.

A *Consignee* is the receiver of the goods.

Debit all receipts.

Debit that which costs value.

Credit all disbursements.

Credit that which produces value.

Posting is the act of transferring entries to the ledger.

Journalizing is the act of recording transactions in the journal, or of transferring items in accounts to their closing account in the ledger.

An Original Book of Entry is one in which transactions are first recorded. The books used principally as original books of entry are the Journal, Cash Book, and Pay Roll.

A Trial Balance is a test to ascertain whether the debit and credit sides of the ledger are equal. It does not prove the work to be absolutely correct, as errors may be made which will offset each other, items posted to the wrong account, errors in journalizing, wrong computations, etc.

There are two trial balances—*Trial Balance of Differences* and *Trial Balance of Amounts.*

Trial Balance of Amounts shows a general result, as it contains both sides of the account.

Trial Balance of Differences (Balance of Balances) shows a net result, as it contains only the balances of the different accounts.

A Statement is a written form showing the condition of a person's account.

To Close an Account is to put an end to its current or running condition.

A Balance Sheet is a complete statement showing assets and liabilities, surplus and deficit (gains and losses). It is also called a financial statement.

A Receipt is a written acknowledgment by one receiving money or other property that it has been received.

A Contract is an agreement which creates, transfers, or completes legal obligations. A common intention must be shown.

A Lease is an agreement to rent.

A Collateral Note is one given with stock or other security, empowering the holder to sell if the note is not paid when due.

A Joint Note is one signed by two or more persons.

A Protest is a written statement made by a notary public that a note or draft has been presented by the holder, but payment has been refused.

Bankruptcy or Insolvency is a state of being unable to pay debts.

Solvent is a state of being able to pay debts.

Discount is an allowance for prepayment or prompt payment of a bill or debt.

Trade Discount is a deduction made by wholesale houses and others in trade.

An Invoice is a detailed list of goods bought.

Inventory is an itemized list of articles, with their estimated values.

An Assignment is a transfer by writing, making over to another the whole of any property for the benefit of the creditors.

Capital is money or property of any kind invested in a business or institution.

Stock is the entire value of goods on hand according to the inventory.

For the benefit of private hospitals conducted on a partnership basis, the following definitions are given:

A Partnership is the relationship resulting from an agreement between two or more persons to place their money, effects, labor, and skill, or some or all of them, in some business and to divide profits or bear the losses in a certain proportion. (They may be either limited or general. They are limited when they are formed under a law authorizing such arrangement, and they differ from the general in that in the limited partnership the liabilities of one or more of the partners may be limited, while in the general each partner is liable for all the debts of the firm, even though they exceed his interest in the business. The limited partners are liable only for the amount of their interest.)

Partnerships may be formed either by written contract, oral agreement, or by implication. When there is no agreement showing how the profits and losses are to be divided, they are to be divided equally, even though one partner puts in three times as much capital as the other partner.

Commercial Paper is negotiable paper given

in the course of business. It consists of notes, drafts, and checks.

Negotiable Paper means written evidence of debt which may be transferred by indorsement or delivery, giving the holder the full right to sue and collect it.

Negotiable Paper must be

1. In writing.
2. Properly signed.
3. Negotiable in form.
4. Payable in money.
5. Payable to designated payee.
6. Payable absolutely (there must be no conditions, as, "If I sell my property").

A Note is a written promise signed by a person, promising to pay a certain sum of money at a certain time to a person named, or to his order or to the bearer.

There are two parties to a note—the *Maker* and *Payee*. The maker is the person signing the note, and the payee is the person to whom it is made payable.

A Check is an order addressed to a bank by a depositor, requesting the payment of a specified sum of money to the bearer, or to the person named in the check or to his order.

A Certified Check is a check which has been recognized by the proper officer as a valid appropriation of the amount of money specified to the person named.

A Cashier's Check is one given by the cashier of a bank.

There are three parties to a check — the *Drawer*, the *Payee*, and *Drawee*.

The *Drawer* is the person signing the check.

The *Payee* is the person to whom it is made payable.

The *Drawee* is the bank or firm on whom the check is drawn.

A *Check* should be *presented for payment* on the next business day after being received. If the bank should fail after the check has been received and before being deposited, the holder of the check would be the loser.

A Draft or Bill of Exchange is a written order signed by one person, ordering another person to whom it is directed to pay another a specified sum of money.

There are three parties to a draft (the same as in a check).

There are two kinds of drafts—*Sight* and *Time*.

The *Sight Draft* is payable when presented to the drawee by the payee or his order.

The *Time Draft* is payable ten days after the date it is presented to the drawee by the payee or his order.

The *Drawee accepts* the time draft by writing across the face of the draft, "Accepted....." (date) and signing his name.

An Acceptance is a bill of exchange that has been accepted.

An Indorsement is the writing of one's name on the back of a note, draft, or other written instrument—an implied agreement to pay the same in case the principal debtor fails to do so.

There are three kinds of indorsements—*In Full, In Blank,* and *Without Recourse.*

Indorsement in Full.

Pay to John Jones or order.

WILLIAM SCOTT.

Indorsement in Blank.

WILLIAM SCOTT.

Indorsement Without Recourse.

Without recourse.

WILLIAM SCOTT.

Errors are classified as (a) errors of principle, (b) clinical errors, errors of omission, errors of commission, offsetting errors.

DETECTION OF ERRORS IN TRIAL BALANCE

1. Ascertain the exact amount of the error.
2. Review carefully the additions of the trial balance before looking for the error in the ledger or other books.
3. If the number can be divided by 9, there is a transposition of figures (756 may have been entered as 567).
4. Divide by 2 and see if that amount has not been posted to the wrong side of an account.
5. Review the entries from the book or books of original entry.
6. Look for the error systematically.

FIVE IMPORTANT ITEMS IN CLOSING A LEDGER

1. Find the trial balance.
2. Open an account with loss and gain or surplus and deficit.
3. Begin with the first account after the proprietors' and close.
4. If the account be financial, enter the difference between the two sides in red ink upon the smaller side, rule the account, and bring the balance forward in black ink to the opposite side. If it be a business account, add in the inventory (if an asset inventory, add to the *credit* side; if a liability inventory, add to the *debit* side), and enter upon the smaller side (after the inventory has been added) the difference or bal-

ance in red ink, add, rule, and bring down the inventory balance in black ink to the opposite side of the same account, and carry the loss and gain to the opposite side of the loss and gain account.

5. Ascertain the net loss or gain, surplus or deficit, and transfer to the capital accounts.

6. Close the capital or proprietors' account.

TO FIND ERRORS IN CASH ACCOUNT

1. Verify all additions and subtractions on check stub in the ledger account.

2. Find the exact amount of the difference, and look for that amount in the ledger account and on the check stubs.

3. See if you have failed to add the deposits to the bank balance.

CASH BOOK

The following pages show the Cash Book, and give examples of the various entries that will appear in it:

CASH—DR.

Date	Item	Account	Hospital earnings	Miscellaneous
		Balance on hand, carried forward		
	Hospital earnings—sundries	Accounts receivable (proper account)		
	Credit memos	Accounts payable (proper account)		
	Donations and legacies (unrestricted)	Donations and legacies (unrestricted)		
	Donations and legacies (restricted)	General endowment fund and endowed bed fund		
	Income from investments—sale of hospital land and buildings	Income—hospital land and buildings		
	Sale of equipment	Equipment		
	Notes receivable	Notes receivable		
	Interest purchased	Interest		
	Insurance for fire losses	Loss and gain account		
	Miscellaneous			
	Total			
	Balance on hand			

CASH—CR.

Date	Item	Account	Operating expenses	Miscellaneous
	Investments purchased	Bonds		
	Investments purchased	Mortgages, etc.		
	Interest purchased	Interest		
	Notes receivable	Notes receivable		
	Mortgages payable paid	Mortgages payable		
	Notes payable	Notes payable		
	Taxes, etc., on investments	Income on investment		
	Petty cash	Expense		
	Accounts payable	Accounts payable (proper account)		
	Insurance	Insurance		
	Equipment	Equipment		
	Equipment	Expense		
	Real estate (hospital)	Hospital land and buildings		
	Periodicals	Expense		
	Salaries and wages (list)	Expense		
	Refunds to patients	Personal account		
	Repairs	Expense		
	Renewals	Expense		
	Interest on notes payable	Interest		
	Sundries	Personal accounts		
	Miscellaneous	Miscellaneous		
	Total			
	Balance on hand			
	Total			

4. See if you have failed to subtract any checks from the balance.

5. See if you have forwarded amounts from one check stub to the next.

6. See if you have omitted a journal entry.

7. See if you have posted an item of some other account to the cash account.

8. See if you have posted some cash item to some other account.

9. Check all items from the beginning.

Discounts. A business house or a hospital should take advantage of all cash discounts. It pays to borrow money to pay bills on which a cash discount is allowed in time to get the discount.

SIMPLE DOUBLE ENTRY BOOKKEEPING

Small institutions should keep at least the following books: Cash Book, Journal, Invoice Book, and Ledger.

The *Cash Book* contains a record of all cash received and paid out.

The *Journal* contains the records, with debits and credits, of all transactions which do not involve the receipt or payment of actual cash.

The *Invoice Book* contains all invoices sent to the institution, showing purchases of materials, supplies, and equipment.

The *Ledger* is used to show the summary of all business transactions.

Before taking up the examples of entries as they appear in the various books, the following general rules of double entry bookkeeping should be carefully studied:

1. For every debit there must be an equal credit.
2. Debit all receipts.
3. Debit that which costs value.
4. Credit all disbursements.
5. Credit that which produces value.
6. Debit interest for its costs.
7. Credit interest for its returns.

PETTY CASH

A Petty Cash fund should be set up for the payment of all small current items, such as postage, expressage, messenger service, etc. To safeguard this fund, a Petty Cash Voucher (Form 11, to be shown later) should be made out and signed by the payee for every payment from this fund. These vouchers should show the items for which the money is expended and the account to which the expenses is chargeable. They should all be totaled at the end of the month, and the totals of the different items entered on the face of the Voucher Envelope (Form 12, to be shown later). A check should be made out at the end of each month, and at such other times as is necessary, to bring this fund up to the required amount.

CHECK BOOK

An ordinary check book may be used for the payment of bills, and each check entered, as made out, in the Cash Book.

JOURNAL

The following examples show the different entries to be made in the Journal:

1

Mortgages receivable	Dr.	$.....	
Investment account concerned	Cr.		$..... ....
Capital account concerned	Cr.		$..... ....
For mortgages receivable received in full or part payment of property sold.			

2

Mortgages receivable	Dr.	$.....	
Bonds	Dr.	$.....	
Other investment accounts	Dr.	$.....	
Loss and gain	Cr.		$..... ....
For value of same, not including accrued interest, given to the hospital. Full details should be recorded.			

3

Mortgages receivable	Dr.	$.....	
Bonds	Dr.	$.....	
Other investment accounts	Dr.	$.....	
General Endowment Fund	Cr.		$..... ....
Endowed Bed Fund	Cr.		$..... ....
Other special funds	Cr.		$..... ....
For value of above, not including accrued interest, given to these funds during the month.			

4

Notes receivable	Dr.	$.....	
To (personal account concerned)	Cr.		$..... ....
Note for (time) (rate) in full or part payment of account.			

5

Notes payable	Dr.	$.....	
Notes receivable	Dr.	$.....	
Notes payable	Cr.		$..... ....
Notes receivable	Cr.		$..... ....

For renewals of notes (give details).

6

Personal account concerned	Dr.	$.....	
Hospital earnings	Cr.		$..... ....

For professional care as per bill No.....

7

Hospital land and buildings	Dr.	$.....	
Equipment	Dr.	$.....	
Capital account	Cr.		$..... ....

Expenditures capitalized during the month. Value of gifts during the month, capitalized.

8

Capital account	Dr.	$.....	
Equipment	Cr.		$..... ....
Real estate (hospital land and buildings)	Cr.		$..... ....

For book value of sales during the month.

9

Capital account	Dr.	$.....	
Hospital land and buildings	Cr.		$..... ....
Equipment	Cr.		$..... ....

For loss by fire or depreciation during the month.

10

Loss and gain	Dr.	$.....	
Personal account receivable concerned	Cr.		$..... ....

For uncollectable accounts received charged off during the month.

11

Loss and gain	Dr.	$.....	
Hospital land and buildings	Cr.		$..... ....
Equipment	Cr.		$..... ....
Real estate—investment accounts	Cr.		$..... ....
Bonds—investment accounts	Cr.		$..... ....
Other investments	Cr.		$..... ....

For losses on sales during the month.

12

Loss and gain	Dr.	$.....	
Hospital land and buildings	Cr.		$..... ....
Equipment	Cr.		$..... ....
Real estate—investments	Cr.		$..... ....
Bonds	Cr.		$..... ....
Other investments	Cr.		$..... ....

For depreciation or losses by fire.

13

Loss and gain	Dr.	$.....	
Notes receivable	Cr.		$..... . .

For uncollectable notes receivable, charged to loss and gain account.

14

Hospital land and buildings	Dr.	$.....	
Equipment	Dr.	$.....	
Real estate—investments	Dr.	$.....	
Bonds	Dr.	$.....	
Other investment accounts	Dr.	$.....	
Loss and gain	Cr.		$..... ....

For profits on sales of these items.

15

Interest	Dr.	$.....	
Loss and gain	Cr.		$..... ....

For accrued interest on donations.

16

Loss and gain	Dr.	$.....	
Interest	Cr.		$..... ....

For the amount of earned interest over costs for the month.

17

Interest ..... Dr. $..... ....
  Loss ..... Cr. $..... ....
  For the excess of costs over returns for the month.

18

Endowed Bed Fund ..... Dr. $..... ....
General Endowment Fund ..... Dr. $..... ....
Other funds ..... Dr. $..... ....
  Loss and gain ..... Cr. $..... ....
  For amounts charged off of these funds during the month owing to the cessation of liability of the hospital.

19

Hospital earnings ..... Dr. $..... ....
  Loss and gain ..... Cr. $..... ....
  For hospital earnings accrued during the month.

20

Hospital earnings ..... Dr. $..... ....
  Overpayments by patients ..... Cr. $..... ....
  For overpayments by patients.

21

Real estate ..... Dr. $..... ....
Bonds ..... Dr. $..... ....
  Loss and gain ..... Cr. $..... ....
  For value of such given to the hospital during the month and not capitalized.

22

Overpayments by patients ..... Dr. $..... ....
  Loss and gain ..... Cr. $..... ....
  Accrued overpayments by patients not refunded and not liable to be claimed.

23

Loss and gain ..... Dr. $..... ....
  Expense ..... Cr. $..... ....
  For transfer of expenses accrued during the month to loss and gain.

24

General material ..... Dr. $..... ....
  Loss and gain ..... Cr. $..... ....
  Surplus amount of material on hand as per an inventory.

25

Loss and gain ..... Dr. $..... ....
  Material ..... Cr. $..... ....
  For loss or depreciation of material during the month as shown by an inventory.

If the business is conducted as a partnership, one of the following final entries will be made:

1

Loss and gain ..... Dr. $..... ....
  Proprietors' accounts ..... Cr. $..... ....
  For the proportionate share of the gains during the month as shown by the loss and gain account.
Proprietors' accounts ..... Dr. $..... ....
  Loss and gain ..... Cr. $..... ....
  For the proportionate shares of the losses incurred during the month as shown by the loss and gain account.

If the business is being begun, an entry should be made in about the following form:

Statement of agreement showing how it is agreed to divide losses and gains and other information.
  Real estate ..... Dr. $..... ....
  Equipment ..... Dr. $..... ....
  Other investments ..... Dr. $..... ....
    Proprietor A ..... Cr. $..... ....
  Real estate ..... Dr. $..... ....
  Equipment ..... Dr. $..... ....
  Other investments ..... Dr. $..... ....
    Proprietor B ..... Cr. $..... ....

[To be continued.]

Hotel Service in the Hospital

After all is said and done, your patient is really a guest in your house, and in one sense a customer, and, although nursing care is the first and most important care he should receive, it is not all that is needed to make him comfortable and to have him go out of your hospital satisfied with what he has been given for the money paid to your cashier.

From the minute a patient enters your front door his hotel service begins. Someone should be there to carry his bags, and take him to his room. Not only should the room be clean with disinfectant and put in order, but walls and furniture should be redecorated often enough to prevent the patient from wanting to turn around to go home again or to another hospital. In this room he should have the things that any good hotel would give him in these days—a reading light, ice water and glasses, desk and writing material, running water, a bathroom if he pays enough and a telephone on his bedside table. Your patient needs good maid service too—that is, his room cleaned and dusted each day without waiting for already overworked nurses to put it in order.

Then there should be someone, an orderly or door-man, whose business it is to see that flowers, before they fade to death, mail and packages reach him when they are delivered, and that someone is available to go around the corner and do an errand for him if he wants it done. And last, but not least, he should have what he wants to eat. The most capable dietitian we know may plan your menus and supervise the serving of food, but if you make hard-and-fast rules that only certain articles of food may be served at given times, you are not going to please your patients—and remember that the finest department stores and hotels have made their success with the motto "The customer is always right."

We realize that ward rates do not pay for a la carte service and that the usual ward patient would not want it, but when your guest is paying from $4 to $8 and more per day, he should have the kind of food he wants, and when he wants it. We believe too, with the Food Administration, that table d'hote meals are a big factor in the waste problem, and that serving meals without any regard for the individual taste is worse in a hospital than it is in an hotel or restaurant, because it takes a mighty attractive meal to tempt a man who is not well, and not exercising to get an appetite. Here is a specific instance:

Mr. B., recently operated on for appendicitis, is not a fussy patient but just an average type of American business man who gets what he likes to eat at home and stays at good hotels when he travels. After the ether and gas pains have done their worst to him, the doctor puts him on a liquid diet and the nurse brings in some dark brown beef broth. Mr. B. doesn't like beef broth, but it is the only broth on the menu for that meal. He takes two sips, gags a little, and the broth is taken back to the diet kitchen and thrown down the sink. A few days later a busy surgeon says, "Put him on a general diet at supper-time," and Mr. B. begins to vision and taste a broiled lamb chop, a pot of good coffee, some head lettuce with French dressing, and a plate of hot toast. The tray comes in with the following, and he is told that it is the general diet menu for supper that evening:

A bowl of wheat cereal.
Two thick slices of bread.
A pot of tea.
A glass dish of canned blackberries.
A slab of cake.
Creamed salmon.

Now the poor victim never could be persuaded to eat cereals, even in his youth, he loathes tea, has stopped eating canned berries long ago, he never eats cake except when his wife makes it, hates salmon, and has no use for creamed things anyway, considers them a mess. The patient nibbles a little and the tray goes back to the diet kitchen, the contents of the dishes to the garbage bucket, and about 8:30 p. m. when a friend comes in, Mr. B. sends him around the corner for a bottle of ginger-ale and a club sandwich.

This specific instance is not an exaggeration, and happens every day. Table d' hote service in the hospital often means dissatisfied patients and unnecessary waste in these times when every ounce of food counts for so much. Good hotel service to our patients certainly plays a large part in our failure or success.

DIAMOND CUTTING FOR CRIPPLES

A New Industry for Legless Soldiers—British Diamond Merchants Trying to Capture Former German Trade

A British diamond merchant, Mr. Bernard Oppenheimer, has initiated a movement to train legless soldiers in diamond-cutting and polishing. Ninety percent of the world's supply of rough diamonds, it is said, come from the British colonies. Formerly they were cut and polished in Belgium, Holland, and Germany. It is the German portion of the trade that the British are trying to secure, and as formerly there were two thousand men in the German Empire employed in this work, there would seem to be a considerable field.

Mr. Oppenheimer and his friends have given £20,000 (about $100,000) toward a school of diamond-cutting and polishing; The DeBeers Company, the largest diamond producers, have contributed £2,500 (about $12,500). The work is not difficult, and it is said to be possible for a man to earn at least $10 or $15 a week within three months after starting. It is hoped that at least two hundred men will be ready for work by the end of the year. Mr. Oppenheimer has bought a site for the first factory, where he will employ from three hundred and fifty to five hundred men, and it is hoped that other merchants will do the same.

The men, it is said, like the new work. Their first practice was on marble, but they learned so rapidly that they were put on diamonds after two or three days. The best workman was formerly a dock laborer. The industry is well suited to legless men. Later Mr. Oppenheimer hopes to be able to take men who have lost the sight of one eye, as only one is required in examining the diamonds.

The world reserves its big prizes for but one thing, and that is initiative. Initiative is doing the thing without being told. Next to doing the thing without being told is doing it when you are told once.—Woman's Magazine.

Bequests under the will of James R. Steers, of New York City, vice-president of Henry Steers Company, Inc., who died in December last, include $10,000 to the Presbyterian Hospital, $10,000 to Sloane Maternity Hospital, and $5,000 each to the Post-Graduate Hospital, Manhattan Eye and Ear Hospital, Women's Hospital, and St. Andrew's Convalescent Hospital for Women and Children, all of New York.

The MODERN HOSPITAL

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SUBSCRIPTION.

Domestic postage, $3.00. Foreign postage, $3.50 (15 Shillings). Single copies, 35 cents.

Domestic rates include United States, Cuba, Mexico, Porto Rico, Canal Zone, Hawaii, and Philippines.

Contributors, subscribers, and readers will find important information on advertising page 42.

Hospital Finances and the War

What effect is the war having on hospital finances? To what conditions may the hospitals look forward?

Thus far there has been no appreciable alteration of income in consequence of the war; on the other hand, expenditures have increased enormously. To offset increased expenditure, many hospitals have very properly readjusted their charges to private patients. In addition, many institutions report increased collections from ward patients, due less to advance in rates than to more searching inquiry into the ability of such patients to pay, and perhaps to greater regularity of employment among the industrial classes.

Increased income has been due, also, in part, to increased allowances by municipalities for the support of patients classified as public charges. For example, New York City has granted a per capita per diem allowance for 1918, which is 20 percent greater than the rate allowed in 1917; elsewhere similar allowances have been increased from 10 to 50 percent. While these increased allowances have been sought and are welcomed by the hospitals affected, they are not regarded as wholly satisfactory, because the rates of compensation previously allowed were far below the actual cost of maintenance. There remains, therefore, a wide margin between cost and compensation notwithstanding the increases recently granted. Private hospitals which are engaged in the care of public patients are insisting more and more that the work done by them for the municipalities should be compensated on the basis of actual cost.

The "actual cost" for which American hospitals are now contending is a sum sufficient to cover current expenditures for maintenance, excluding interest on capital, and, of course, including no allowance whatever for medical service, which is commonly rendered gratuitously and ungrudgingly. Whether "actual cost" will eventually be held to include such items as interest on the capital invested and, in addition, a fair return to the physician or surgeon, is a question for future determination. It is noteworthy that in England where, until recently, voluntary hospitals generally spurned all suggestions of state aid, there has sprung up an insistent demand that the rates now paid by the government and willingly accepted by the hospitals for the care of military patients, be made liberal enough to cover all proper charges, including just compensation to the attending physician.

Apart from relief from governmental sources, what forms of financial relief may hospitals expect? Donations will probably continue notwithstanding war taxes, but donations are not likely to grow as rapidly as expeenditures for labor and supplies. The experience of the great English hospitals during 1915 (the second year of the war for England) is interesting in this connection. According to Burdett's "Hospitals and Charities," the total expenditure of thirty-one general hospitals with medical schools in 1915 was £1,428,863 as compared with £1,488,429 in 1914; the income of these hospitals was £1,451,354 in 1915 as against £1,546,678 in 1914. The total expenditure of seventy-five general hospitals without medical schools was £867,404 in 1915 as compared with £815,570 in 1914; the income of these seventy-five hospitals amounted to £936,905 in 1915 as compared with £856,784 in 1914. The "special" hospitals are classified separately. The expenditure of fifty-nine "special" hospitals in Great Britain was £605,639 in 1915 as against £625,156 in 1914. The income credited to this group was £643,725 in 1915 as against £665,693 in 1914.

The figures just given represent total expenditures on both current and capital accounts; the stated income represents income from all sources. An analysis of the income returns shows a slight falling off in annual subscriptions and donations, balanced, however, by a considerable increase under the head of "patients' payments," an item which was small in most voluntary hospitals in Great Britain just prior to the war, and almost

negligible a few years earlier, before the passage of the national insurance act. In 1914, patients' payments in the general hospitals amounted to only £45,554; in 1915, this item had increased more than seven-fold, reaching the very respectable figure of £357,967, most of the increasee being due to payments received from the Admiralty and War Offices in respect of the treatment of naval and military patients.

Huge sums have been raised in the United States for military and civilian war relief; in the foreground stands the hundred-million-dollar fund of the American Red Cross. Although these sums were not specifically subscribed for the purpose of aiding civil hospitals, the question may well be raised whether part of this money cannot be made available for hospital uses; the hospitals of Boston appear to think that it should be. The Boston Committee on Hygiene, Medicine, and Sanitation, addressing the local chapter of the American Red Cross, says: "In order that the facilities of the hospitals and dispensaries for the general population be not diminished during the period of the war, and in order not to have the dependents of soldiers and sailors become charity cases, it is proposed that the Red Cross should see that. either by the use of government allotments and allowances, or by its own supplementary aid, the usual fees are paid for the services rendered to dependents of soldiers and sailors when cared for in hospitals and dispensaries."

The general outlook appears to be that donations will not suffer appreciable diminution during the war; that expenditures, which have already increased greatly, will increase still more; that hospital earnings will increase, owing to an adjustment of private rates and to greater frequency of payment by ward patients; and that payments from governmental sources by way of compensation for the treatment of public charges, both civil and military, will increase. I predict considerable payments with respect to the treatment of military patients in civil hospitals, notwithstanding the declared policy of the government, which is to provide for the care of soldiers and sailors in military establishments whenever possible, and to utilize civil hospitals only in emergencies. "Emergencies," I believe, will become more and more numerous with the progress of the war, and this is said without any intention of reflecting upon the vigor or efficiency of the medical department of either the army or the navy, or upon the comprehensiveness of the government's hospital program. The civil hospitals have something to give, and the government will not, in the long run, refuse to take it; and what the government takes it will pay for.

Whether legacies and bequests to hospitals are to be adversely affected by the unprecedented and somewhat staggering income and inheritance taxes remains to be seen. Posthumous gifts are applied, as a rule, to the increase of invested funds or to the erection of new buildings. Hospital construction for the time being is almost at a standstill, and there is but little likelihood of its early resumption. A diminution of gifts for this purpose would not, for some time to come, be seriously felt, since there is no strong desire to undertake additions to plants at a time when it is is so difficult to provide for the upkeep of buildings already erected. If considerable sums of money should be acquired in the near future for building purposes, whether by legacies, bequests, or donations, such sums will be put aside to be expended at a time when a dollar will buy more steel and bricks and labor than it will buy today.

Perhaps, when the war is over, there will be an entirely new deal in the whole sphere of health administration, hospital administration included; in that event it is conceivable that boards of trustees who have undertaken the financial upkeep of voluntary hospitals will have less to worry about than they have today. The government is assuming the widest and fullest responsibility for the medical care of the soldier, whose contribution to the war is obviously essential to the safety and welfare of the nation; before long the government may come to recognize that the industrial worker is equally valuable, and in that case it is conceivable that the government, national or state, will assume responsibility for the care of the industrial worker, and of his dependents as well.

S. S. GOLDWATER.

Hospital Costs and Building—A Safe and Sane View

"To build or not to build" is a question that is vexing many boards of trustees and communities at present. The impression seems to prevail in many quarters that the erection of new hospitals or the extension of those already existing should be deferred until after the war. The decision to forego needed hospital facilities has such a serious and important bearing on the health of the community that we have asked Mr. Richard E. Schmidt, the hospital architect, who has made a special study of this question of building costs, to give us his views on the subject. We regard the statement which Mr. Schmidt has kindly prepared as so illuminating that we are presenting it in full.

"The belief that the cost of hospitals built at present

prices is very much higher than the cost of similar buildings prior to the great war is no doubt due to the tremendous increase in the prices of many commodities with which hospital trustees and managers have become familiar, to their great discomfiture and embarrassment, in the purchase of articles required in the conduct of their hospitals. Since 1914, wheat has advanced 93 percent, paper 82 percent, feed 83 percent, coal 115 percent, woolens, lard, canned goods, and pork 100 percent, corn 186 percent, and so on to the 500 percent advance in some of the necessary drugs, whereas building supplies average an increase of about 30 percent.

"That these advances in building material can be discounted by the architect who is expert in hospital design and who knows where economy can be obtained by using suitable materials of the lowest cost and limiting the quantities of all the material to a minimum, without detracting from the efficiency of the building, is evidenced by the cost of buildings built in 1912-1913 and proposals which have recently been received on the plans and specifications for several new buildings. They are as follows:

"One $200,000 complete new building without power house, contracted for in 1912, 31.6 cents per cubic foot.

"One $100,000 complete new building without power house, contracted for in 1918, 36.3 cents per cubic foot, an increase of 15 percent.

"One hospital, complete, including power house, contracted for in 1914, 31 cents per cubic foot.

"A hospital of similar size and arrangement, contracted for late in 1917, is costing 36.9 cents per cubic foot, which is an increase of 19 percent, but the increase could have been reduced to 15 or 16 percent if the owners had consented to a substitution of cheaper materials for a part of the steel trim and tile floors, which are to be used throughout the building.

"A first-class apartment house, built in 1911, cost 19.45 cents per cubic foot. A similar apartment house, which returns higher rentals but is not located so well, built late in 1917, cost 22.3 cents per cubic foot, an increase of 15 percent. The one built in 1917 is fully as good in quality as the former and equal to it in appearance.

"The firm of architects which furnished the quoted figures built hospitals without power houses, in 1911 to 1914, at costs ranging from 27 to 43 cents per cubic foot, proving that unit costs varied over a wide range before the war; that some hospitals cost more per cubic foot than others are costing today, and that the difficulties occasioned by the site in the delivery of materials, uneconomical height, occupation of irregular-shaped property, and the selection of expensive materials to satisfy taste or fancy are factors in cost more important than the increased cost of building supplies.

"New methods of building construction are now available which reduce the quantities of material, using them in shapes where maximum efficiency is obtained with a resulting economy not only of the materials themselves but also in transport costs and labor of handling and placing.

"The result of unemployment in the building industry is causing contractors to figure closer and to reduce their percentage of profit to maintain their organizations.

"There is very little likelihood that prices will be reduced for many years; they certainly will remain as high as they are while the war lasts, and will increase when the enormous demand for materials and rebuilding begins again abroad.

"Any man can easily verify the fact that prices never fell to the level which prevailed before the Civil War and that this occurred after every war in modern history. Labor is better paid than it has been at any time, and the prevailing value of the dollar has fallen. All industries, and hospitals as well, must conduct their business on the new basis so that the thinking and cautious man will not waste much time thinking about the increased cost of building as compared to the 50 and 300 percent increase in nearly all other commodities, but will seek to secure the benefit derived from immediate action."

As we have remarked previously in these columns, hospitals for the civilian population are not less but more necessary during the war, because, since such large numbers of physicians have been called into the national service, it is the more imperative to use to the best advantage the services of those who remain. Hospital facilities, in short, are a war-time economy in the broad view. Even in the narrow view which regards only the cubic foot cost, as Mr. Schmidt's careful study shows, it is likely to be expensive to defer building until the close of the war. We commend his figures and conclusions to the consideration of trustees and others who are debating the question of building now or later.

The War and the Hospitals

We have been asked a number of times how the war and preparations for the war are going to affect civil hospitals. We presume this inquiry has generally meant what part are the civil hospitals to take in the war and in the preparations for war.

The inquiry is most pertinent, and, although we have discussed in a fragmentary way some of the factors that enter into the problem, we think there is need for some further discussion. It has been announced by the Surgeon-General of the Army that the civil hospitals are not to be called on to care for injured and sick soldiers except in such an emergency as is not now anticipated, as, for instance, a greater number of sick or injured soldiers than the War Department could take care of in its own institutions.

We feel that the War Department is entirely justified in taking this attitude; we believe it would have been a mistake to provide for the sending of injured and sick from the war into civil hospitals.

The sick and wounded soldier is still a soldier who is in the pay of the government, and, if he gets entirely well and gets well promptly, he becomes again a part of the fighting forces. How is the War Department to assure itself of his prompt and permanent cure if it turns him over to a civil hospital somewhere whose medical men are not under its control, who are usually not selected by reason of their medical or surgical qualifications, who have not always the viewpoint of the army surgeon or physician, and who do not at all appreciate the army's need to get its men back on

the fighting list in fit physical condition and as promptly as may be?

The wounded soldier, if he is too badly hurt to be recovered for active service again, has to be disposed of in some way. How is the War Department to dispose of him effectively and efficiently if he has gone from under its control? Who is to say when this sick soldier is ready to go back to the front? Who is to say if he is permanently disabled and no longer to be counted on as a part of the fighting forces? Obviously, it must be someone who has authority and responsibility, and who has intimate knowledge of all the factors that enter into the problem of sending the convalesced soldier back to the fighting line. Then, again, the soldier may be incapacitated for life and may be entitled to a pension or to the privileges of the war insurance, and who is to determine these facts? The treatment of a case may, and certainly will, have very much to do with its cure; the War Department may not always have the very best men in the profession at its call, but certainly the government has taken every precaution to call into the service the best men there are in the various branches of medicine. These men will have been trained in military methods of procedure, and they will know exactly what the government's policies and plans are. As a broad rule, the soldier under the care of a military surgeon will get better treatment than he will in the average hospital and under the care of the average staff physician.

Then, there are the papers to make out. The civilian doctor does not know how to make out these papers and is disinclined to learn. The military surgeon knows exactly what it required, and will send the incapacitated soldier back to civil life with his papers in such shape that there will be no difficulty in fixing his status and in giving him the benefits of everything to which he may be entitled.

These are some of the reasons why the War Department must have absolute control of every hospital in which its wounded or sick soldiers are to be cared for.

But there are many things the civil hospital can do and will have to do as its share in this war. Every soldier that goes out to fight leaves behind him relatives or dependents, and these must be taken care of when they are sick; indeed, the whole civil population must become a charge upon the civil hospitals while this war goes on. There are young men who need some slight surgical operation to fit them for their places in the ranks. There are still younger men, boys, who must be brought up to the draft age in good physical condition, and the hospital in a community is in large measure responsible for the inculcation of the principles of hygiene and sanitation and decent living, so that these boys will have the best chance possible to bring them to the soldier age fit for admission to the army. There is the wife of the soldier who is to give birth to a new baby, and the soldier out in the front, fighting our fight, must know that his wife is to have the best possible attention at this critical time in her life. The civilian hospital must be his reliance for this.

And so we might enumerate the broad service that the civil hospital is to give to the country and to dependents of every class while the heads of families and the bread-winners are away doing a man's part to make this country "safe for democracy."

There are some of us who must go to the fighting front in this war; in action and under the spur of the martial uniform, the bands, the guns, and with the goal for which the soldier yearns, these men will give the best that is in them, and even their lives, for the country. Too many of us have no place at the fighting front, but we can be just as brave as the soldier. We can give the best service that is in us, and we can do just as much for our country back here at home. The soldier is making vast sacrifices; we too can make sacrifices, and we of the medical profession and we of the hospital world have our parts to play in the fearful drama of our time, and we can do our duty with as much heroism as the man who dies in front of his trench.

Medical Men in Training

Nearly fifteen thousand medical men, most of them young and nearly all connected with hospitals in one capacity or another, are now in military training camps, cantonments, and with troops in the field, to be fitted for military service in the war. These are the men who are to be the leaders in the medical profession of the next generation. Nearly all of them are back at the very first principles of education and training. Many of them are under grizzled campaigners of the regular army, men who obey their superiors without question, and who expect the same obedience from those under them.

Out in the training camps these men are occupying barracks; their insignia of rank are put away; they sweep out, clean up the premises about the camps, scrub and oil the floors, make beds, and do all the menial duties of the orderly, or the domestic—or the pupil nurse. They practice "setting up" exercises; drill in squads, platoons, companies, and battalions; practice equestrianism—that is, cavalry movements and riding. They answer reveille at 5:30 o'clock on these cold winter morn-

ings, make the fires in their own barracks, and until "taps" at 9:30 p. m. they have never a single minute they can call their own.

After their days of training are over they will go to the war, where the slaughter of men is dull routine and where discipline regulates even their heart beats. What is all this to mean to the hospitals of this country and to the public when the great "muster out" comes and the profession comes home again, forsaking the sword to take up the plow?

We have been a terribly pampered and luxury loving people. Our young doctors have been taught to expect service from others—what, when they are trained to serve, when discipline is their second nature, and when "orders" are a fetish? In that day the standardization of hospitals will be automatic; rules will have the force of "orders," and "service" will be the apotheosis of medicine. In that day we shall know that the war has been worth all it has cost. And this same experience, with like results, will have saturated every stratum of society, every trade and profession, and every living soul of us. And we shall be a century ahead.

The Hospital Door Open to Venereal Diseases

We are in receipt of a communication from Dr. J. M. Baldy, of the Bureau of Medical Education and Licensure of Pennsylvania, telling of what that state is doing of its share in the prevention and control of venereal diseases.

The Bureau of Medical Education and Licensure has sent to the hospitals in the state approved for internship the following communication:

"Venereal diseases are one of the great menaces to the health and social welfare of a community. Patients suffering from these are among the first to apply for treatment to a young physician entering into practice; consequently there is no single class of cases in which the intern should receive more careful instructon. Without justifiable reason such cases are routinely refused admission to hospitals. This refusal is particularly unwarranted in hospitals receiving state aid or receiving the approval of the state for the privilege of giving the fifth year of education to interns. All such hospitals should make immediate provision, under the direction of their medical and surgical staff, for the admission of venereal cases, of cases of purulent ophthalmia and cases of vaginitis in children. The coming reinspection will note compliance with these suggestions."

This bulletin was issued January 1, 1917. After war was declared, following the plea sent out by the medical section of the Council of National Defense and the Committee of Public Safety for the Commonwealth, a resolution introduced by Dr. John A. McLean of Philadelphia was adopted by the House of Delegates that the bureau take action to secure the admission of venereal diseases to the hospitals of the state.

The Bureau of Medical Education and Licensure then issued, in conjunction with the State Board of Charities, the following letter to the hospitals of the state:

"In view of the fact that we are engaged in war, which, by virtue of the spread of venereal infections, has always involved the greatest danger to the efficiencies of armies as well as to the wellbeing of civil communities, and in view of the fact that our national government is now making strenuous efforts to control the prevention and spread of all infectious diseases and thereby conserve the resources of the nation, it is essential that proper provision be made for the treatment of this class of patients.

"It is urgently important that all general hospitals in the state shall make provision for the reception and treatment of this class of patients, and we therefore recommend that:

"Every hospital shall make preparation and provide equipment for the admission of patients afflicted with venereal diseases, and shall strike from their present by-laws or rules any regulation which forbids such admission.

"Hospitals which maintain dispensaries, but have no separate venereal department, are strongly urged to establish such department under the charge of a genito-urinary specialist.

"Provision should also be made by such hospitals for admission for treatment of cases of this character as cannot properly be cared for in the dispensary.

"It is requested that this matter be brought promptly to the attention of the board of managers of your institution and if it has not already been done, that action in line with the above recommendations be taken.

"It is further requested that notification of the attitude of your hospital towards this matter be promptly reported to the State Board of Public Charities, in order that this board and the Bureau of Medical Education and Licensure may have the definite information for their files."

From the fact that the replies received indicated that practically all hospitals of standing in the state were willing to take the proper measures, the bureau felt warranted in using such methods of compulsion as lay within its power. Therefore, after a very careful survey of the field, the bureau adopted resolutions notifying the hospitals that failure to comply with this request will result in the elimination of the name of such hospital from the approved list for internship in January, 1918.

The foregoing communications were sent to 186 hospitals, of which 156 have professed complete compliance with the bureau's request. A distinct refusal has been received from but one. Dr. Baldy says:

"Taking it all in all, Pennsylvania has succeeded in eliminating from its hospital system the old prejudice against the treatment of venereal diseases, which fact opens a new era in the treatment and control of this group. Institutions which before this time have had by-laws or rules prohibiting the admission of such cases now have organized departments in charge of a genito-urinary specialist and a special ward for the house treatment. . . . The bureau is firmly convinced that any state board which will vigorously and fairly take hold of this proposition can accomplish equal results in their own state, and it further believes that the greatest difficulty in the reform of all hospitals lies not so much with the management as with the medical men."

Coloring Oleomargarine—A Warning

Investigation has shown that a number of hospitals are coloring oleomargarine for use on their tables. We feel it a duty, therefore, to call attention to the provision of the United States Internal Revenue Regulations that any person who adds artificial coloring to oleomargarine except for his own family table, shall be held to be a manufacturer within the meaning of the act and subject to the penalties therein provided. Further, it is expressly stated that the head of an asylum, hospital, soldiers' home, or other public institution is not the head of the family within the meaning of the act. Wilful violation of the act would subject the institution in question to criminal action. Even if the violation occurred through ignorance, the institution would be compelled to take out a manufacturer's license from the first of the month in which the violation discovered occurred until June 30 following, paying 50 percent penalty for not having a license, or at the rate of $75 a month; it would also have to pay a tax of 10 cents a pound on all oleomargarine colored.

THE HOSPITAL CARE OF CONTAGIOUS DISEASES*

Principles of Aseptic Technic — Method of Changing Nurses' Uniforms—Care of Food, Dishes, etc.

BY LUCILE A. BUTLER, AND VIRGINIA RAU, NURSE CORPS, UNITED STATES NAVY.

The study of contagious technic as carried on by some of our leading hospitals of today is very interesting and profitable. After spending some time in one of these hospitals one comes to the conclusion that there is a way to care for people afflicted with a contagious disease without danger to the community or to the nurse; also that it is unnecessary to isolate those in attendance upon them as has been done heretofore.

It has been proved without a doubt by those who have made a careful study of contagious diseases that they are transmitted by contact and are not air-borne, as was formerly supposed. The contact may be direct or indirect—direct when there is actual contact with the patient and indirect when there is contact with a contaminated carrier. Anything that comes in contact with a patient, directly or indirectly, is contaminated and should be considered dangerous.

In order that time and labor may be saved when caring for these patients, it is necessary to divide them into units. A unit is an area which represents a separate and distinct infection. It may comprise a single bed or an entire room.

In caring for these different units it is necessary to use aseptic technic, the object being to confine the infection to one unit. In carrying out the medical asepsis one must remember that he is protecting himself from the patient, whereas in surgical technic the object is directly the opposite. The carrying out of the technic, however, is practically the same.

Each new admission is usually under observation for one week and is placarded "Detention," either bed or door detention, depending upon how many other units occupy the same room. Another placard, "Barrier," denotes that there is a question of diagnosis, or that other patients suffering from a different disease are being treated in the same ward. If after the detention period there is no question about their diagnosis patients may be transferred to a large convalescent room.

Corridors, kitchen, operating room, and, as a rule, one utility room are kept free from contamination.

The nurses wear short-sleeved uniforms with the skirts about 5 inches from the floor. The school cap is also worn. Large gowns are worn by the doctors and nurses only when they come in intimate contact with the patients. The sleeves of the gowns extend down to the wrists where they are confined by elastic bands.

Before the nurses enter the wards they proceed to a dressing room, where each nurse has two lockers; one is marked "House uniform" and the other is marked "Ward uniform." The ward uniform is put on and the nurse is ready to go to her ward. When going off duty the ward uniform is exchanged for the house uniform, first washing the hands before touching the house uniform.

The patients' rooms contain a bed, bedside table, and chair, these constituting the actual areas infected. When the patient is discharged the bed, chair, and table are washed with soap and water. The mattress is aired for twenty-four hours unless in case of death or a cross infection, when it is taken to the sterilizer. Soap and water, air and sunlight are the important germicidal agents in carrying out this theory. All rubber goods, by sterilization in an autoclave, are simply washed off toys, combs, shoes, slippers, etc., which would be destroyed with soap and water and aired for twenty-four hours. The patient's clothes worn on admission are sent to the laundry—that is, anything that is washable. Suits, furs, hats, and gloves are aired for forty-eight hours in the sunlight.

When ready to care for her patient, the nurse puts on her gown, which hangs in the room, and proceeds to bathe the patient, make the bed, and take the temperature. When through with this she washes her hands and unties the strings on the neck of her gown, then those at the belt, bringing them forward and tying them so they will not drag on the floor. Then she removes the gown and folding the inside in hangs it on the hook. Her hands having thus been contaminated again, she gives them a thorough scrubbing. The scrubbing bowls are kept uninfected and are operated by the arm-lever or by the foot-pedals. The hands are held under running water and then soaped with a liquid from a container attached above the bowl, when they are scrubbed with a nailbrush. The palms are scrubbed, while the back of the hands and the arms are simply well washed, as the skin is too sensitive for the constant application of a brush. Individual towels about 15 inches square are used. In choosing the material for the towels it has been found that linen or huck which has been well laundered has been the least irritating to the skin and most satisfactory in regard to the wear of the laundry.

If the ward contains five or six patients of the same unit, i. e., all scarlet fever or diphtheria, it is not necessary to scrub between patients. Each room contains a small shelf large enough to hold a jar with 65 percent alcohol for the thermometer and individual jars for cotton and ointment. In a ward with several units more shelves would be needed. Hooks for gowns are provided in the same manner. When planning the rooms it would be well to have the washbowl fixtures on the opposite side from the gown and shelf fixtures.

Soiled linen is thrown down a chute operated by a foot or arm control. This laundry is gathered up by a porter who wears a gown and washable gloves, which are thrown in the laundry when he has finished.

The porter wears a gown and gloves when entering an infected building. The doors are usually opened and left open until he has completed whatever work he is about. If only one hand is used in carrying a pail or basket, the glove on the noninfected hand could be slipped off and the door be opened with the clean hand. All door knobs on the ouside of the doors are washed daily with soap and water. Any repairs made by workmen are made without wearing gowns, as they never handle the patients and always wash their hands on leaving the ward. Maids for the wards always wear gowns, removing them before leaving the wards and scrubbing their hands.

The food served in these wards is sent to each floor from a food carrier in the basement, which has been wheeled from the main kitchen, and is placed on a dumbwaiter. It is then taffen off at each serving kitchen and served on the trays. When collecting these trays they are placed in a large steam dish sterilizer, one at a time. The dishes with the waste food are then taken out without touching the outside of the sterilizer and the food emptied into the waste can, which is next to the sterilizer. The dishes are then replaced in the sterilizer. The maid then turns on the water until all the dishes are completely covered. She then turns the steam on. The dishes are kept in until fifteen minutes after the boiling

*Courtesy of the United States Naval Medical Bulletin.

point has been reached, when they are taken out and given the ordinary dish washing.

Bedpans and urinals are emptied into a hopper and washed with running water, after which they are placed in a utensil sterilizer, and when a sufficient number have accumulated they are covered with water and boiled for the same length of time as the dishes. This same technic applies to other basins and other utensils used in an infected area.

Before sweeping floors they are sprinkled with oiled sawdust, and the brooms used are scalded between each room. After all the rooms are swept one attendant gathers up the sweepings with a pan and brush, which are afterwards scalded and aired.

In case of death the same technic is carried out, the bodies being considered infectious. The nurse wears her gown when bathing the body, and all orifices are packed with carbolized cotton. She then summons the porter, who takes the body to the morgue wrapped in a clean sheet.

All patients must stay in their own rooms unless they are allowed out of doors or have lavatory privileges. If children come out of their rooms or throw toys out of their own area they are kept in bed, or if necessary the door is closed. The toys given to very small children are usually tied in some manner to the bed.

Patients are permitted to write letters, and collections are made triweekly, when they are sent to the dry sterilizer. Legal documents may be signed without contamination if two clean towels are spread on the bedside table and the paper placed between them, leaving the space for signature uncovered. The nurse holds the towel and paper steady, and the patient, to whom an inked pen is given, affixes his signature.

Special points to be remembered in the carrying out of this technic are: never to touch the face while the hands are contaminated, not to lean against beds, chairs, or any furniture in the room unless a gown is worn. Remember to take into the room everything necessary to serve the patient before getting contaminated, to avoid either extra scrubbing of hands or the calling of a clean nurse away from her duties. Always scrub under running water.

This special technic would probably differ somewhat in different hospitals, but it should be remembered that the fundamental principle is the avoidance of contact, direct or indirect.

In summarizing these collected data it must be borne in mind that it is absolutely imperative to have the proper equipment at hand, i. e., plumbing, sterilizers, an abundance of linen, gowns and towels, particularly, before a practical demonstration can be carried out.

A Hospital Department for the Journal-Lancet

The *Journal-Lancet* announces that it hopes to begin in an early issue a hospital department with a specific purpose wholly different from that of the general hospital departments of most medical journals. Its purpose is to be the best solution of the problems connected with a community hospital whether of two, ten, or forty beds. The occasion is the rapid increase in the number of hospitals in the Northwest. The new department is to be conducted by a man of large practical experience and of recognized ability whose name is not mentioned.

The way to Heaven always lies by your neighbor's door.

Present-Day Conditions Applying to the Purchase of Hospital Supplies

BY GEORGE W. WALLERICH, Chicago, Associate Editor of the Technical Department of THE MODERN HOSPITAL.

A review of present-day prices applying to some of the hospital staples, such as dressings, instruments, gauze, cotton, catgut, electrical apparatus, etc., brings strongly to mind the fact that in comparison with prices covering other commodities, the raise in prices has not been exorbitant. True, there are a few instances in which price advances have seemed unwarranted, but when such cases are inquired into, it will be found that as a rule the advance is fully justified.

I have recently asked for an expression of opinion from a number of manufacturers concerning the prospects of possible price advances, prompt deliveries, etc. The replies have naturally varied considerably, but as a whole, may be considered very favorable.

The cotton and gauze situation is, of course, a serious one, but not to such an extent that there will be such shortage as to greatly handicap civilian hospitals. No other commodity has been in comparative greater demand by the army and navy, all of which have had to be supplied in the least possible time. When one considers that this demand is one which formerly did not exist and that within a few months American manufacturers have been able to meet it, it is to be wondered that there is sufficient cotton and gauze left to take care of the civilian hospitals.

This is only one of the many thousands of cases in which the American manufacturer has been able through his resourcefulness to meet the increased demand, which war conditions have brought about. Several concerns have been established for the manufacture of a wood fibre cotton substitute. This material has many good qualities and gives promise of replacing cotton for use in certain cases. It has high absorption capacity, and, while naturally not of such fine texture as the better grades of cotton, can be used with equally good results where indicated.

We have not yet to any great extent made a practice of reclaiming soiled dressing material in this country. This is done to a great extent in European countries and was common practice even prior to the war. With our modern laundering machinery, sterilizers, etc., it would seem that this subject is worthy of consideration.

Catgut occupies an important place among that material which must be supplied in unusual quantities at this time. America has always been a large producer of surgical catgut of the best grade, and several very excellent makes have only recently been placed upon the market. Evidently there will be no shortage of catgut.

Surgical needles are the one item which have given hospital people no little concern. England has always been a large producer of surgical needles, in fact, needles of all types, and until some months ago a great many needles were exported to America, but, with the ever-increasing demand from the armies of the allies, this source of supply has practically been stopped. Under supervision of the British War Trade Department, all manufacturers of English-made needles have been consolidated, and the distribution of their product regulated by the British director of army contracts. This has resulted for the time in the cutting off of export shipments of surgical needles, unless for use in the allied armies. The variety of patterns has also been reduced to a considerable extent, and it is absolutely necessary that surgeons in this country should adapt themselves for the time being to the use of substitutes that surgical supply houses may be able to furnish them, instead of continuing to insist on

getting their favorite shape or size af needles, which they have been accustomed to use.

American manufacturers have again come to the fore, and one house in particular has prepared for the manufacture of surgical needles on a large scale. This concern is already making delivery of some needles, though they will require time in order to be able to produce on a very large scale for use of civilian hospitals, since this firm was recently commissioned to make upward of 50,000 gross of surgeons' needles for the U. S. Army.

The paper bandage has recently made its appearance and as a secondary dressing is proving very satisfactory. This is a form of crepe paped and, therefore, has considerable elasticity, adapting itself to contoured surfaces quite as well as gauze bandages. This dressing can be used by placing it over a layer of gauze at a considerable saving in the cost of all gauze dressings.

Hospital furniture at the present time is being sold at prices somewhat in advance of those in force a year ago. This must be expected, as every single item entering into the manufacture of hospital furniture has been affected. Steel, brass, porcelain, plate glass, enamel, and labor have advanced. Prices affecting pressure sterilizers in particular, have had to be advanced by manufacturers. Government requirements have been large, as the cantonments in this country as well as a great number of base hospitals abroad have had to be equipped. Most of this hospital furniture, however, is being made in the Eastern factories, with the exception of one or two cases, probably owing to the saving of time in making freight deliveries to the Eastern ports.

Improvements in electrical equipment for hospital use have been numerous, a great many new devices having been designed in response to army and navy demands. Some of these will be described in early issues of THE MODERN HOSPITAL.

There is hardly a firm manufacturing x-ray equipment at this time which is not working on army contracts, but practically all have been able to manage their production so as to take care of the demand for equipment, aside from that going to the government.

The manufacturers of surgical rubber goods apparently are all about in the same position, the substance of this being well stated by one of the larger manufacturers, who writes:

"In view of the conditions existing, due to the country being in a state of war, the action of the fuel conservator and the very large requirements of the government and Red Cross, it is altogether desirable that users of rubber goods of all kinds should anticipate their requirements well in advance of their actual needs.

"While this factory is in a position to fill the average order within ten days from date of receipt at the present time, yet the indications are that wthin a short time it will take at least thirty days to take care of domestic requirements.

"No correct estimate can be made at the present time as to future prices. The scarcity of ocean tonnage carrying crude materials, disturbed conditions in the labor market and other factors, as such that prices are liable to change at any time. It will be the endeavor of rubber manufacturers to hold their prices as stable as possible, but no guarantees can or will be given. The situation is one of uncertainty, and hospitals will protect their own interests by placing their orders now."

Surgical instruments are now far more plentiful, as regards the quantity and variety of pattern, than they were a year ago. There is, however, a very great difference in the quality of many of the instruments being offered, and great care should be exercised in their selection.

But comparatively few steel surgical instruments were manufactured in the United States before the war, owing chiefly to the fact that this line of industry is one of the established trades in Europe, generations of mechanics having made their life work nothing but the making of surgical instruments. Naturally such workmen could make them correctly and in less time than where they had to be made by mechanics just taking up this particular class of work. The European scale of wages being much lower and with a low import duty in this country, the industry is one which formerly could not develop here.

When the war came, we were indeed in a difficult position and the greatest credit is due to those American firms which had the courage to invest their capital in equipping factories for making surgical instruments in the United States. By the use of modern machinery and much patience in teaching workmen a new art, the manufacture of instruments has progressed, until today a good representative line of instruments of American make can be had. Prices are naturally somewhat higher than formerly, and for a time many of the instruments were far from correct in pattern, finish, temper, etc., but these imperfections are being rapidly rectified.

The Japanese were quick to grasp the opportunity offered when European makers of instruments were out of the American market. Every buyer of steel instruments has had some experience with the Japanese product. Some of these are of good quality, though seldom well made, and but rarely of correct pattern. It is not our purpose to condemn the Japanese goods, but one should depend upon responsible dealers, who through experience are able to judge well an instrument from a mechanical point of view.

The demands for instruments from the army have been heavy, and will continue during the period of the war. Such instruments as are needed are being supplied by American manufacturers, in addition to those which are required for home use, and while for a time this has handicapped the dealers, this condition has improved considerably, so that since the army requirements are of comparatively few patterns and are now being manufactured on a quantity basis, most of the surgical dealers can now make deliveries upon receipt of orders, or at least within a reasonably short time.

On the whole, the shipments of such material as is needed for hospital maintenance is available as promptly as may be expected under present conditions, and while prices have advanced, they are no greater, relatively, than prices of other commodities. Much of this extra expense can be offset by watching the waste and my using a less expensive substitute where possible.

Reorganization of the Committee on Hospitals

The committee on hospitals of the General Medical Board of the Council of National Defense has been reorganized with the following membership:

Dr. S. S. Goldwater, New York, Chairman; Dr. Winford Smith, Baltimore; Dr. Joseph Marshall Flint, New Haven, Conn.; Dr. Shepherd I. Franz, Washington, D. C.; Dr. Edward Martin, Philadelphia, Pa.; Dr. F. F. Simpson, Washington, D. C.; Col. Robert E. Noble, Washington, D. C.; Dr. Frederick A. Washburn, Boston.

Our grand business in life is not to see what lies dimly at a distance, but to do what lies clearly at hand.—Carlyle.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

A Course in Medical Diseases

BY ETHEL P. CLARKE, Director of School of Nursing, Indiana University.

This is the day of surgery; its strides have been so spectacular, its achievements so marvelous, its demands so imperative, that it is little wonder that it has absorbed much attention in our hospitals from the administrator, from the nurses, as well as from the medical staff. In nearly all general hospitals a much larger proportion of beds are set aside for the use of surgical patients than for any other class of cases, with the beds always occupied and the admitting officer clamoring for more. Nevertheless, medicine has also made its great advances, and from the nursing viewpoint there is little doubt that the medical service offers a more critical group of cases, and one demanding a higher degree of nursing ability; moreover, there will be a greater variety and number of nursing procedures used, making it a very valuable teaching field.

The patients are all sick, and the nurses' resources will often be taxed to the utmost in order to make them comfortable and happy, the wards in this respect differing from the surgical wards, where a large number of the patients are only incapacitated and feel perfectly well. Many are there because of accident or injury, perhaps with fractured limbs or an amputation, and after the first few days they can be cheerful and interested in their surroundings and each other.

For the young student nurse, anything pertaining to surgery seems to have a potent charm, which makes it all the more necessary to present the teaching of medical diseases in a thorough and convincing manner in order to arouse a real and lasting interest.

More and more the training schools are impressing upon the students the fact that they have a very definite place in the campaign for the prevention of disease and the education of the community in the laws of health. The public-health field is attracting a large number of the young graduates, and, if we pause to consider a moment, we realize that a large proportion of this work is medical, dealing, as it does, with general sickness in the homes, with the children in the schools, with infant welfare and tuberculosis; therefore it is indeed important that due weight be given to this course in the curriculum, and that the students be imbued with a lively zeal and an appreciation of the place it will probably take in their future career.

With these points in mind we have tried to outline a course in medical diseases as part of the three years' training, and one which might be carried out in any large general hospital. Experience in the care of contagious diseases and tuberculosis is provided for, assuming that wards for these cases are a part of the hospital plant. If such wards are not available it is usually possible to arrange affiliations with other institutions, and some provision for this very valuable training should certainly be made.

The course as outlined gives this experience in the first and third years.

First year:

1. 8 weeks general medical wards, male and female.
2. 4 weeks tuberculosis wards.
3. 8 weeks contagious wards.
4. 4 weeks dispensary.

Total, 24 weeks.

Third year:

1. 4 weeks general medical wards.
2. 4 weeks tuberculosis wards.
3. 8 weeks contagious wards.
4. 4 weeks social service department.

Total, 20 weeks.

In a hospital of 300 beds each class will number about 48 or 50 students, and these are divided into two sections of 24 or 25 students each.

In the first year the section of 24 is divided into six groups of 4 students, which are rotated through the medical department in four-week periods. As the contagious department is large, two groups can easily be handled at one time, so that each group will spend a double period of eight weeks there. Since it is better to allow the students to have some ward experience before going to the dispensary, one group will begin the practical work four weeks later than the others, and therefore finish later, as shown in Table 1.

TABLE 1. WORK OF GROUPS A, B, C, D, E, F—4 STUDENTS EACH.[1]

	Medical, male	Medical, female	Tuberculosis	Contagious	Dispensary
1st 4 weeks	A	B	C	D, E	...
2nd 4 weeks	C	A	F	D, E	B
3rd 4 weeks	D	C	B	A, F	E
4th 4 weeks	B	D	E	A, F	C
5th 4 weeks	E	F	D	B, C	A
6th 4 weeks	F	E	A	B, C	D
7th 4 weeks					F

[1]E's schedule for the twenty-four weeks is traced by arrowed lines. The other groups can be followed similarly.

In the third year the section of 25 is divided into five groups of 5 students each, which are rotated through the medical department in four-week periods, again handling two groups for a double period in the contagious department.

TABLE 2. GROUPS A, B, C, D, E—5 STUDENTS EACH.[2]

	Medical, male or female	Tuberculosis	Contagious	Social Service
1st 4 weeks	A	B	C, D	E
2nd 4 weeks	E	A	C, D	B
3rd 4 weeks	C	E	A, B	D
4th 4 weeks	D	C	B, E	A
5th 4 weeks	B	D	A, E	C

[2]E's schedule for the twenty weeks is traced by arrowed lines. The other groups can be followed similarly.

By this arrangement there will be some members of both preparatory and senior classes on the wards; this should

be beneficial to the students, and serve as a stimulus to produce work of a high grade.

Some of this ward experience may be given on night duty, particularly in the senior year. Therefore, it will be necessary to have one of the assistants to the general night supervisor in charge of all medical wards with the exception of the contagious department, which has its own night staff, responsible to the general night supervisor.

GENERAL MEDICAL SERVICE

It may seem that twelve weeks in the general medical wards is a very brief period, but the training is intensive, and it should be borne in mind that in the contagious department many general conditions will be met with, such as heart, kidney, and lung complications, which will supplement this experience; and again later, when the student receives her training in the nursing of children, she will spend a period in the medical ward in that department, for which the work in the first year will lay the foundation. It has not been included in this outline for the reason that it seems better for the course in pediatrics to cover all branches of that service.

The medical wards are two in number, male and female, with eighteen beds in each. With an active service these provide good experience, and having a dispensary to draw from, the teaching aspect of the cases is likely to be taken under consideration when admitting them. Cases of skin disease, and eye, ear, nose, and throat conditions needing medical treatment in the hospital will probably be admitted to the same wards.

Necessarily different seasons of the year will find different kinds of diseases among the patients, pulmonary, bronchial, and rheumatoid conditions being more prevalent in the winter and early spring months, and typhoid, malaria, etc., during the summer and fall. With the training arranged to cover two distinct periods, in the preparatory and the senior years, it is an easy matter for each section to have experience in both seasons.

The two medical wards should be in charge of a graduate supervisor, with a graduate assistant as head nurse in each ward. These nurses should be considered teachers as well as executives, as indeed should all the graduate nurses in the hospital holding similar positions.

TUBERCULOSIS SERVICE

It is undoubtedly true that the majority of nurses graduate with a deplorable lack of knowledge of tuberculosis, and many with a certain fear of it, as witnessed by the difficulty often encountered in the effort to secure a nurse to care for such cases in the home, where the environment is excellent.

That the disease is very prevalent is common knowledge, and investigation shows that it is found in all classes of society, irrespective to a certain degree of economic conditions, and in the rural districts as well as in the congested cities. Experience has proved to us that the cases that are discovered early and given proper education and treatment, have a large chance of becoming arrested, thus enabling the patients to be happy, useful, and self-supporting, instead of a burden to themselves and to society. If the campaign against this disease could be sufficiently active and thorough, it is probably true that a very few generations would see it stamped out.

In any program of prevention laid down by physicians and sanitarians, nurses are an essential factor. Therefore, it seems imperative that our nurses have a sound knowledge of tuberculosis. They go into the homes of the poor and the wealthy alike, and with proper training should be ever on the alert to discover suspicious cases and urge them to seek the advice of a good physician at once, but they cannot discover if they don't know what to look for, and the only way they can learn is by actual experience in dealing with such cases.

The tuberculosis wards have twenty-four beds, twelve male and twelve female. It would be most desirable to have four beds in each division set aside for incipient cases, for patients that come to the hospital for a diagnosis, as it is in dealing with this class of cases that a nurse can be most helpful in overcoming the disease.

This department will have a graduate supervisor, and one graduate assistant as head nurse of the male and female divisions. It is well to have the very early cases separated from those that are more advanced, for their regime will be very different; also the discouragement caused by the more advanced cases will be avoided.

The instructor in occupational therapy will find here much opportunity for valuable work, and the students will get an insight into the important therapeutic value of pleasant useful occupation in any disease where the period of inactivity is necessarily long.

CONTAGIOUS SERVICE

The contagious wards will certainly number many children among the patients, but adults will also be found there. Thirty-six beds will give excellent experience in the various diseases.

The administration of the department will demand a graduate supervisor with two graduate assistants, and a graduate head nurse and an assistant at night. This may seem a large staff, but it is necessary in order to give the students the rigorous drill that is imperative with the most modern methods of handling cases of this character. It is desirable that experience in all the diseases be given to each student, which may be arranged by interchanging them among the various units at regular intervals. Any complicating surgical conditions that may arise necessitating intubation or tracheotomy, etc., would be taken care of in the department, so adequate provision would be made for dealing with them, and the students should have the benefit of this side of the work.

As before stated, many hospitals have not the contagious wards; under such conditions arrangements should be made for affiliation with a special hospital, in the same city if possible. Assurance that the students will have the proper supervision is very necessary, and it is well for some method to be worked out whereby they may return to their own school for class and lecture work.

DISPENSARY

It is supposed that the hospital has a large and active out-patient department, with daily clinics. This allows the student to come in contact with patients under more natural conditions. Heretofore she has usually seen them after they have passed through the admitting department, when they come to the wards ready for bed and clad in hospital clothing. She will receive many new impressions, and the patient will assume an individuality that he has not before possessed; also these ambulatory patients will often present an entirely different clinical field from those she has seen in the wards and thereby prove of great teaching value.

If the clinics are held in the morning, two or three hours in the afternoon may be given to visiting the patients in their homes, studying the living conditions, and helping the patients to carry out the doctor's instructions; perhaps teaching some member of the family simple routine

care or matter of diet. It may be in the course of her visit she will see others of the household needing medical attention, and she will have the opportunity to urge them to come to the dispensary also.

This will much increase the student's interest in the patients, stimulate her powers of observation, and enlarge her horizon, really helping to give her a social viewpoint, though while she is receiving her dispensary training the home visiting is done by her very distinctly in the capacity of nurse, rather than that of social worker.

The student will have other dispensary training so that at this time her attention is given to the four clinics for general medical diseases, skin diseases, tuberlucosis, and special diseases (eye, ear, nose, and throat). A week should be spent in each clinic, making the work just as intensive as possible.

This medical division of the dispensary will be in charge of a graduate supervisor, with a graduate assistant. By this means the students may be followed very closely, allowing them all to see cases of special interest in any one of the clinics. The supervisor will arrange for all "follow-up work" in the homes, and her assistant will be responsible for it, going with certain students each day and directing their efforts. In this way they will be left to themselves part of the time, giving them opportunity to develop self-reliance and initiative, yet not without careful guidance.

SOCIAL SERVICE

This department offers a most interesting and valuable field of study, and one that is usually much enjoyed by the student. It is not used as training to fit her for the special field of social work; the few weeks spent there would be utterly inadequate for that purpose, but it should aid greatly in giving her a social sense, and lead her to look beyond the patient in the bed and seek for the causes that have brought him there and the way they may best be remedied. She will learn that the hospital has not completed its work when the patient is discharged, in as good condition as may be; that it is its duty to follow that patient into the home and help him to complete the cure by whatever steps may be necessary, whether it is sympathy and encouragement, a new job, different environment, or what not.

During the time spent in this department it is better for the student not to wear her nurse's uniform; at the moment she is not a nurse, but a worker striving to make a social diagnosis, which is often as important as a physical one, as far as the patient's ultimate welfare is concerned. She should wear a neat and befitting street dress; this in itself is educative, for many nurses depend so entirely on the neatness and exactness of the uniform that they are careless and somewhat lacking in discrimination when it comes to wearing other clothes.

It is important that the director of this department, who will be responsible for the students while there, shall have a sympathetic understanding of their needs, and that such cases shall be selected for their study as will prove of greatest value. After the first week the students may be given certain cases as problems to solve for themselves, the director or one of her assistants keeping in touch with the progress made from day to day, and putting forth a guiding hand when necessary. The experience the hospital has already afforded with its charts will be of value in enabling the student to grasp the importance of the social records, and she should be able to keep them accurately with very little difficulty.

It may be that some students are particularly interested in children, surgery, or mental diseases; it is well to allow such to have their social service experience in those departments, a matter which can be easily arranged. It is probable that more enthusiastic work will be given if they feel that they have a certain freedom of choice; moreover, it impresses upon them the importance of considering what their future work is to be.

OCCUPATION THERAPY

This work is new for general hospitals, though a few have established it and give very encouraging reports of its value. Undoubtedly it is here to stay, and the next few years will probably see great developments along many lines. The course as planned will not fit a nurse to work as an instructor in occupation, but she may learn to do one or two things quite fairly well. She will be able to deal better with many of her patients if she can arouse their interest in doing something useful and attractive, and perhaps be the means of starting some on the road to making a modest livelihood. Should she decide to make it her future work her professional training will be of immense value to her, making possible close and intelligent cooperation with the physicians.

The tuberculosis and psychopathic wards will probably offer more patients needing this work, but surely there will be others in both medical and surgical wards, who could go to a shop for a few hours a day; and some bed patients will be better and happier for useful and attractive occupation.

The crafts selected in this outline can be taught in any demonstration room, and would demand very little outlay in the way of tools and equipment. Much of this work can be done in a wheel-chair, or even in a bed if the patient is unable to be up. The pottery work is extremely inexpensive, fifteen to twenty cents furnishing clay enough to make a good-sized bowl or vase, and almost every large city will possess means for firing any articles made, so it is not essential to install a kiln. The basketry is attractive, and in the reed work the patients can quickly see the results of their efforts, and are delighted with the useful articles they are able to make.

METHOD OF TEACHING

The nurse instructor who is responsible for the teaching of medical diseases should meet the supervisors of the departments in a group at regular intervals, and discuss the cases on the wards and in the out-patient departments from the teaching aspect, and for their mutual benefit. She will let them clearly understand her aims and methods in order to enlist their sympathy and cooperation. Good team-work is essential, and the more closely they work together the better will be the result. Each supervisor should have an outline, with dates, of all class and lecture work, so that they may know the ground that is being covered, and correlate their ward teaching with it as far as possible. The nurse instructor will discuss the material for department classes with each supervisor and render any assistance necessary.

Much of the practical instruction should be given at the bedside of the patient to small groups of students; such a method demands considerable time, but it well repays the effort made in better and more finished work. In addition a demonstration class room will be required. Since these students in their preliminary course as probationers have had thorough work in the principles of nursing, with demonstrations and practice, any demonstrations given with this course are largely a matter of review. They serve the purpose of associating the treatments with the various diseases, and should be performed by the students,

thereby increasing their skill and giving them valuable experience in working before spectators and explaining the steps of their procedure as they do so.

The theoretical work is given largely in lecture form, followed by recitation classes. Inasmuch as each ward has preparatory and senior students, which allows for alternation of hours off duty, there is every reason for all lectures and classes to be held during the day.

The first-year work is divided into five courses as follows:

COURSE I

Medical Diseases, Twenty weeks. Forty hours. Two lectures each week.

1. Review of heart structure and circulation. Endocarditis.
2. Pericarditis. Treatment of all damaged hearts.
3. Chronic failures of compensation. Valve injuries. Acute dilatation. Angina pectoris.
4. Arterial diseases. Arteriosclerosis, cause, symptoms, treatment.
5. Aneurisms. Forms, sites, symptoms, medical and surgical treatment.
6. Anemias.
7. Leukemias. Hemophilia. Purpura.
8. Review of structure of lungs and air passages. Bronchitis. Acute coryza.
9. Acute lobar pneumonia, etiology, pathology, symptoms, course, treatment, sequelae.
10. Lobular pneumonia. Bronchiectasis. Congestion. Hemorrhages.
11. Emphysema. Lung abscess, Lung gangrene. Pleurisy. Empyema.
12. Toxic conditions. Poisoning from meat, milk, grains. Pellagra. Beriberi.
13. Gastro-intestinal tract. Stomatitis. Esophageal strictures. Esophagismus. Postdiphtheritic paralysis.
14. Acute and chronic gastritis. Gastric ulcer, pathology symptoms, treatment.
15. Gastric carcinoma. Gastric hemorrhages. Gastric neuroses.
16. Intestinal obstruction. Constipation, causes, symptons, treatment.
17. Colitis, causes, treatment. Appendicitis, forms, symptoms, causes, treatment.
18. Jaundice, types, causes. Acute atrophy of the liver.
19. Gall-stones, causes, symptoms. Symptoms as changed by position of stone. Complete obstruction of cystic duct, common duct, ampulla.
20. Cirrhosis of the liver, causes, symptoms, diagnosis.
21. Liver abscess. Liver tumor. Ascites. Pancreatitis.
22. Diseases of the kidney. Movable kidney. Nephritis, causes, symptoms.
23. Nephritis, parenchymatous and interstitial. Treatment of nephritis.
24. Ductless glands, functions. Diseases of thymus, adrenal, parathyroid, and pituitary.
25. Thyroid, simple enlargement of. Dysfunctioning. Hypothyroidism and hyperthyroidism.
26. Constitutional diseases. Gout. Diabetes. Scurvy.
27. Venereal diseases. Syphilis, cause, stages, course.
28. Congenital syphilis. Diagnosis and treatment of syphilis. Gonorrhea.
29. Gonorrhea continued, causes, treatment. Focal Infections. Tonsils, teeth, etc.
30. Typhoid fever, etiology, pathology, symptoms, course.
31. Typhoid fever continued; complications, treatment, sequelae.
32. Malaria, cause, life cycle of parasite, symptoms, treatment.
33. Diphtheria, cause, symptoms, complications, treatment.
34. Smallpox, vaccination. Chickenpox.
35. Scarlet fever. Measles.
36. Acute rheumatic fever. Meningitis.
37. Tuberculosis, cause, pathology, early symptoms.
38. Tuberculosis. Forms, acute miliary, chronic, acute pneumonic.
39. Tuberculosis. Treatment of pulmonary.
40. Tuberculosis, of lymph glands, serous sacs, meninges, kidney. Pathology, diagnosis, treatment.

COURSE II

Medical Nursing. Twenty weeks. Twenty hours. One class each week.

1. Nursing care in endocarditis, pericarditis, acute dilatation.
2. Angina pectoris. General care of cardiac cases. Diet.
3. Measures for relief and comfort of patients. Quiz on cardiac conditions.
4. Inhalations, bronchial kettle (use and preparation). Review on sputum. Collection and care of same.
5. Care of patient in fresh-air treatment, bed clothing, etc. Protection of nurse from cold. Preparation for aspiration.
6. Quiz on lung conditions.
7. Lavage, gavage, rectal irrigation and alimentation.
8. Review on vomitus. Gastric and intestinal hemorrhage. Application of heat and cold to the abdomen. Test meals.
9. Constipation. Discussion of its prevalence and importance. Diet.
10. Quiz on gastric and intestinal conditions.
11. Preparation for abdominal paracentesis. Abdominal pads and bandage for movable kidneys; methods of adjusting same. General care.
12. General care of nephritic cases. Collection and care of urine.
13. Quiz on liver, kidney and ductless gland conditions.
14. Care of diabetic cases. Diets.
15. Precautions for infectious venereal conditions. Mercurial inunctions. Preparations for salvarsan.
16. Quiz on constitutional and venereal diseases.
17. Nursing care of typhoid, diet, hydrotherapy, etc.
18. Malaria. Hypodermic use of quinine. Diphtheria, general nursing care. Recognition of danger signals, preparation for emergencies.
19. Prophylactic care in communicable diseases.
20. Quiz on communicable diseases.

COURSE III

Special Diseases. Twenty-four weeks. Twenty-four hours. One lecture each week.

A. Skin Diseases:

1. Review of anatomy and physiology of skin and glands. Terms used in describing skin diseases. Classification.
2. Hyperemias and inflammations. Erythema of scarlet fever, Intertrigo, Dermatitis exfoliativa, Urticaria, Pellagra, Psoriasis, Eczemas, types papular, vesicular, infantile.
3. Inflammations continued. Herpes, simplex and zoster. Impetigo. Furunculosis. Carbunculus. Erysipelas. The exanthematal eruptions.
4. Hemorrhagic conditions of the skin. Purpura, Nervous, etc.
5. Hypertrophies. Keratosis, Ichthyosis, Callosities, Elephantiasis.
6. Pigmentation disturbances and neuroses. Leukoderma, Hyperesthesia, etc. New growths: Cicatrix, Keloid, Fibroma, Lipoma, Myoma, Tuberculoses of skin. Manifestations of acquired and hereditary syphilis. Carcinomas. Sarcomas. Leprosy.
7. Diseases of appendages. Hair and hair-follicles. Alopecia. Seborrhea. Sycosis. Nails. Malformations. paronychia, etc. Glands: Seborrhea, Steatoma, Acne, rosacea and vulgaris, etc.
8. Parasitic affections, Animal: Pediculosis, Scabies, Echinococcus, etc. Fungus: Tinea, Thrush, Favus, Blastomycosis, Actinomycosis.

B. Eye Disease:

1. Review of anatomy and physiology of eye.
2. Care of normal eye. Eye-strain, effects, prevention. Defects, Myopia, Hypermetropia, Presbyopia.
3. Examination of eye, instruments used. Methods of treatment. Solutions used, preparation, care of.
4. Injuries to eye. Ruptured cornea, etc., treatment. Foreign bodies, etc., treatment.
5. Diseases of eyelids. Blepharitis, Hordeolum, Chalazion. Diseases of lachrymal apparatus and conjunctivae.

6. Diseases of cornea, choroid, and lens. Corneal ulcer, Keratitis Iritis, Glaucoma, Cataract.

7. Communicable eye diseases. Gonorrheal conjunctivitis. Ophthalmia neonatorum. Trachoma, causes, symptoms, treatment. Social view of same.

8. The poisons. Wood alcohol. Preventable blindness. Legislation concerning communicable eye diseases and wood alcohol. Educational function of the nurse.

C. Nose and Throat Disease:

1. Anatomy and physiology of pharynx, larynx, mouth. Examination of throat and mouth. Treatments.

2. Pyorrhea. Abscessed teeth. Dental hygiene. Tonsils and adenoids. Diseases, indications for removal. Treatment of tonsilitis, quinsy. Diseases of larynx, growths, edema, laryngitis, diphtheria, treatment.

3. Anatomy and physiology of nose and accessory sinuses. Defects. Deviated septums, etc. Nasal treatments.

4. Diseases. Acute and chronic rhinitis. Coryza. Infection of sinuses, causes, symptoms, effects on general health. Complications. Brain abscess, meningitis.

D. Ear Diseases:

1. Anatomy and physiology of ear. Deafness, causes, prevention, treatment. Tests of hearing. Tests of labyrinthine apparatus.

2. Diseases of external ear and auricle. Foreign bodies. Impacted cerumen. Eczema. Furunculosis.

3. Diseases of middle-ear. Chronic and acute otitis media. Mastoiditis.

4. Diseases of labyrinth, and complications of middle-ear disease. Labyrinthitis, Cerebral abscess. Meningitis. Sinus thrombosis. Symptoms of these complications, treatment.

COURSE IV

Nursing in special diseases. Sixteen hours. Following lectures in Course III.

A. Skin Diseases:

1. Application of washes, ointments, powders, etc., baths, packs. Protection of clothing and bedding.

2. Care of communicable skin diseases.

3. Quiz on hyperemias and inflammations.

4. Diet in skin diseases.

5. Restraint in itching conditions for adults and children.

6. Quiz on skin diseases.

B. Eye Diseases:

1. Application of remedies, irrigation, drops, ointment, heat, cold. Dressings, bandages, shades.

2. Care of communicable eye diseases.

3. Quiz on non-communicable eye diseases.

4. Quiz on communicable eye diseases.

C. Nose and Throat Diseases:

1. Treatments for nose, nasal douche, nasal spray, preparations for packing, etc. Treatments for throat, sprays, gargle, external applications.

2. Dental hygiene and dental clinics.

3. Preparations for examining eye, ear, nose, throat, assisting with same.

4. Quiz on nose and throat diseases.

D. Ear Diseases:

1. Treatments for ear, douche, drops, external application of heat, cold, etc.

2. Quiz on ear diseases and complications.

3. The school nurse and routine examinations of the children. Scalp, ears, mouth, etc.

COURSE V

Department classes. Twenty-four weeks. One class in all divisions each week.

A. General Medical Service:

1. General outline of work in medical wards.

2. A nurse's duty in examination of chest, abdomen, extremities. Medical rounds. Routine and preparation for.

3. Discussion of cases of special interest.

4. Reports by students on assigned cases.

5. Care of helpless patients. Feeding, lifting, care of back, etc.

6. Care of special precaution and isolated cases.

7. Collection and care of laboratory specimens.

8. Reports by students on assigned cases.

B. Tuberculosis Service:

1. Pulmonary tuberculosis. Cause, symptoms, precautions, distribution, etc.

2. Rest, food, air.

3. Special bed-making and clothing for patients. Protection of nurse in open-air treatment.

4. The tuberculosis campaign. Organization, statistics.

C. Contagious Service:

1. General prophylactic precautions for patient, physician, nurse and ward attendants. Special care of wards, heat, light, ventilation, noise, etc.

2. Special precautions in the various diseases. Isolation, disinfection, etc.

3. Vaccines, antitoxins, source, uses, preparations. Care of same.

4. Eruptions, forms, appearance, duration, etc.

5. Restraining children in delirium, resistance to treatment, etc.

6. Regulation of diet.

7. Complications in the exanthemata. Effect of these diseases on a child's future.

8. Reports by students on assigned cases.

D. Out-Patient Department:

1. Aim and purpose of the dispensary. Its relation to other social agencies.

2. Visiting the patient in the home. Proper attitude and methods of the nurse.

3. Relation of nurse to patients, clerks, social workers, medical students and physicians in the dispensary.

4. Dispensary records. Methods of keeping same and importance thereof.

Courses I and III are best given by physicians, and Courses II and IV by the supervising instructor. Course V is a series of classes that should be given by the supervisors of the various departments, as each new group of students comes to them. Therefore, they will be repeated as often as necessary. This plan gives the students five classes a week for the first twenty weeks and only three classes for the last four weeks, when they will be completing Courses III, IV, and V; this will allow them time enough for the examinations.

The third-year work is divided into four courses as follows:

COURSE VI

Medical diseases. Eighteen weeks. Thirty-six hours. Two lectures each week.

A series of bedside clinics following the outline of Course I as far as the clinical material will permit.

COURSE VII

Medical nursing. Eighteen weeks. Eighteen hours. One class each week.

Case studies and reports by students on assigned cases and series of cases.

COURSE VIII

Department classes. Twenty weeks. One class in all divisions each week.

A. General Medical Service:

1. Purpose of medical experience in the senior year. Duties of senior students on medical wards.

2. Care of chronic cases in the home. Institutions available for such cases.

3. Simple devices for the use and comfort of the "shut-ins."

4. Discussion of cases of special interest.

B. Tuberculosis Service:

1. Tuberculosis in the homes of the poor and the middle class. Protection of the young child.

2. Industry and the tuberculous individual.

3. Tuberculosis campaign and its latest developments. Significance of the nurse in the programme.

4. Hospitals and tuberculosis. Boards of health and tuberculosis. Sanitarium care.

C. Contagious Service:

1. Eruptions. Periods of incubation. Quarantine of contagious diseases.

2. After-effects of these diseases on heart, lungs, kidneys, eyes, ears, etc.

3. Contagious diseases in the home. Methods of isola-

tion, disinfection, quarantine. As private nurse and as public health nurse.

4. Case reports by students.

5. Contagious diseases in the schools. Duties of the school nurse.

6. Discussion of cases of special interest.

7. Board of health and contagious diseases as affecting hospital, home, and school.

8. Case reports by students.

D. Social Service:

1. Aim and purpose of social service department, its relation to other departments of the hospital.

2. Social records, methods of keeping and filing.

3. Brief survey of local social agencies; their purpose and relation to this department.

4. The training necessary for a nurse to become equipped for social work. How and where to obtain it. Opportunities in the field.

COURSE IX

Occupation therapy. Twenty weeks. Forty hours. Two hours each week.

1. Sources and history of some of the crafts; basketry, pottery, bead work, etc.

2. History of occupation therapy. Social and economic significance.

3. Workshops in our general hospitals.

4. Workshops in state and county hospitals.

5. The mental attitude of the handicapped. Legislation concerning the handicapped in industry.

6. Teaching of the handicapped.

7. Recent developments in the work.

8. Work with the deformed and crippled.

9. Functional and organic nervous diseases.

10. Mental diseases.

11. Cardiac diseases and tuberculosis.

12. The nurse as an occupation instructor.

Shop work. Instruction in basketry (reed and raffia), knitting (by hand and machine). Crochet. Modeling and pottery. Pillow lace.

Course VI will be given by a physician, Course VII by the nurse instructor, and Course VIII by the department supervisors, in the same manner as Course V. An effort is made here to emphasize the social aspect of the work, and to give the student a broad view of it rather than a purely technical one. Course IX necessitates an instructor in occupation, possibly non-resident. It is arranged with twelve lectures, and the remainder of the two-hour periods is to be given to work in the shop; demonstration room will serve every purpose, if such shop is not available.

Throughout the entire course on medical diseases the students should have access to a good reference library. They should receive careful instruction in the correct and economical use of it, and then be required to put such instruction into practice.

SUMMARY—PRACTICAL EXPERIENCE

Department.	No. of beds.	No. of students Preparatory.	Senior.	Period of service weeks. Preparatory.	Senior.
General Medical	36	8	5	8	4
Tuberculosis	24	4	5	4	4
Contagious	36	8	10	8	8
Dispensary	..	4	..	4	..
Social Service	..	..	5	..	4
Total	96	24	25	24	20

THEORETICAL WORK.

	Number of hours Preparatory.	Senior.
Medical Diseases	40	36
Medical Nursing	20	18
Special Diseases	24	..
Nursing in Special Diseases	16	..
Department Classes:		
General Medical	8	4
Tuberculosis	4	4
Contagious	8	8
Dispensary	4	..
Social Service	..	4
Occupation therapy (with laboratory)	..	40
Total	124	114

Short Courses in Nursing*

BY M. HELENA McMILLAN, Principal of the School for Nurses of the Presbyterian Hospital, Chicago.

The question of giving or not giving short courses in nursing by the hospitals of the country has to be viewed from many sides and involves considerable thought. It would seem that the hospitals should be ready to undertake this additional burden if the need of the country or of the individual institution for this kind of assistance be evident or urgent, or if by so doing it can truly aid any one group of individuals without rendering an injustice to the other interests of the institution.

So far, beyond the training of a limited number of aids for base hospital units, the government has not requested the hospitals to establish such courses. It has, however, appealed to the patriotism of the young women of the country, requesting them to enter the organized nurses' schools and to qualify themselves for graduate nurse service, with the result that all over the country the representative nurses' schools are filled as never before, while there are long lists of waiting candidates, assuring for these hospitals and for the government a more permanent and efficient service than short period students could possibly give. Would it not seem natural, if short courses be established, that, accepting the easier method, young women would forget the request of the government, and neglect the tried and established way, causing a really serious nursing situation which might take years of effort to readjust.

It is a question whether the short course as now planned is of real value to the groups desiring it. It is not sufficiently long to be anything but superficial in nature, and gives the graduate neither matured judgment, true discipline nor accurate knowledge, but merely a certain amount of manual dexterity, with, possibly, a mistaken idea as to the degree of her preparedness and an encouragement to assume responsibilities for which she is not ready—a possible danger for the individual and those upon whom she tries her new knowledge.

Universities and other educational institutions accept into their classes "special students," but it is not their custom to enroll them free of charge, nor do they select for the special student the cream of the training material with the best of the instructors, necessitating that the "regular student" take what is left. It is questionable whether well-organized laboratories would allow untrained workers at large among laboratory material. Should not the hospitals, which work with the human being, the most sensitive of all working material, be equally careful? We do not hear of business organizations taking in a group of people, spending much time upon them, and expecting little or nothing in return. Are hospitals, maintained by money of the charitable, justified in adopting unbusiness-like methods?

It is quite possible that hospitals in the future, as has occurred in the past, may be short of student nurses, and under proper conditions, could advantageously use volunteer workers.

To be of value to the hospital, the volunteer should be willing to undertake the "humble" nursing duties, not for one day but for many days, and until it is safe to trust her with greater responsibility: she should accept the long hours of duty, doing a full day's work, not merely two or three hours in the morning; she should be under the direct control of the nurses' school and in all matters of discipline should submit to the same conditions as that of the regular student nurse, who in many of the hospitals is also

*Excerpt from the January Bulletin of the Presbyterian Hospital.

a volunteer worker. Under those conditions women who wish to help hospitals might really do so.

The short course as suggested seems to be exclusively for the benefit, not of the hospital, but of the woman, and is really an additional burden to the hospital, handicapping it in its routine work and upsetting its organization.

Surely there may be worked out some plan by which the short course student of nursing could receive the instruction she desires, pay for the cost of instructors, class room equipment, teaching material, and allow the already heavily burdened institutions for the care of the sick to carry on their work undisturbed.

The Nursing-Preparatory Course in Vassar College

BY ISABEL M. STEWART, A.M., R.N., Teachers College, Columbia University N. Y.

Nurses everywhere will be interested in the recent announcement of a three months' preparatory course in nursing which Vassar College is planning to open this summer to college graduates who wish to enter for the two-years-and-three months course of training in nursing.

This plan of reducing the regular three-year course for women with full college preparation has already been accepted as a war emergency measure by a number of leading hospital training schools in the country, the idea being that pupils with this sound educational preparation might be pushed forward more rapidly into positions of responsibility, and so help to take the places of head nurses, teachers, supervisers, and public health nurses, who have been drafted into the national service. These training schools are simply adopting the general policy of the army and the navy who are recruiting their officer material for the new national forces largely from the men's colleges. There is no doubt that, among the students and graduates of women's colleges, there is much excellent material for the many teaching, organizing, and administrative positions in nursing, and it has been quite evident that, especially since the war began, many of these women have become keenly interested in nursing and eager to serve in the nursing ranks. The length of the three-year course has formerly been the chief obstacle in keeping them out, and now that their college work is being credited for part of this period of preparation, very much larger numbers are entering our nursing schools.

The fact that Vassar College has chosen to make its main contribution to national preparedness in the form of a preliminary course leading to the regular professional training in nursing, rather than in the form of popular short-cut courses for amateurs, is significant and encouraging. It is clear evidence of the growing recognition of nursing as a field for highly trained workers. It shows that the country is realizing the vital part the nursing service has to play in the prosecution of the war, and it seems to show also that with all the various forms of national service competing for the enlistment of our ablest and most thoughtful women, the old call for personal service to the wounded and suffering and the new call for life-saving through prevention and conservation still makes a very strong appeal.

In choosing this plan of the preparatory course in nursing, Vassar has had two main purposes in mind. First was the urgent need to increase as rapidly as possible the number of nurses available for enrollment in the Red Cross. By drafting into this extra summer class a good large group of highly qualified student recruits and giving them a period of intensive preparatory training, it was felt that they could get more directly into active service in the wards of the hospital, and would be able a little earlier to take the places of the senior nurses who will be steadily graduating into the army and navy service. Since very few hospitals are able to take in summer classes, these students would have to wait till fall to begin their preparatory course. They will thus be at least three months ahead in their preparation, and the hospital will be able to put them immediately into regular ward work without having to give them the initial period of instruction and practice which is necessary for any safe and intelligent service to the sick.

The other very important consideration which Vassar had in view was the desire if possible to relieve hospitals from some of the heavy burden they are now carrying. With their seriously depleted nursing and medical staffs and their growing expenses of maintenance, hospitals are still making every effort to respond to the country's need by admitting more classes and training larger numbers of pupil nurses, often at considerable additional expense and trouble. It is evident, however, that if other educational institutions can take over any of the necessary teaching work, without loss to the students, it would be not only a privilege but a duty, especially in this time of crisis, for them to offer to relieve the hospital of some of this work.

This, of course, is not a new idea. There has been an increasing tendency in recent years, especially in nursing schools affiliated with universities, to transfer part at least of the preparatory work from the hospital to the class rooms and laboratories of the college or university. This relieves the hospital of the most expensive and difficult part of the theoretical teaching, and it gives the students the advantage of better instruction in the scientific subjects and better educational facilities generally. While it is probable that the student suffers some disadvantages from the loss of the early contact with patients which helps to bring a richer meaning and a more definite purpose into her theoretical work, this seems to be more than counterbalanced by the greater thoroughness and intensiveness of a preparatory course which is not broken into by the exacting practical demands of the busy hospital wards.

The Vassar summer course has been planned with the advice and cooperation of the committee on nursing of the General Medical Committee on National Defense and also with the assistance of a small working committee from the National League of Nursing education. The American Red Cross has advanced the funds necessary to secure the best facilities and the most competent staff of instructors who can be obtained in the country. This money is a special gift and has not been drawn from the regular funds of the Red Cross. Several men and women of national reputation have already promised to share in the teaching work, and it is believed that these stimulating associations, the comradship of an unusually earnest and intelligent body of women, and the beautiful surroundings of Vassar College, as well as the call of the work itself, will combine to attract a large number of student recruits.

The Vassar Alumnae have undertaken the work of recruiting for the course and have already mapped out a publicity campaign which will extend over the whole country and which, apart from the primary object of enlisting volunteers for the summer course, will undoubtedly help to spread interest in nursing. The committee which has this work in hand includes such well-known Vassar Alumnae as Mrs. Hadley, wife of President Hadley of Yale, Dr. Katharine Bement Davis, and Miss Thurston.

This is no arm-chair "get-nursing-quick" scheme for the woman who is afraid of work. It must be distinctly un-

derstood that there is to be lots of good hard serious work and no triflers are to be allowed. The three months' course will extend from the middle of June to the middle of September, and will be divided into two terms of six weeks each. The work will require from six to eight hours daily in class, laboratory demonstration rooms and library. The subjects of the required courses will be anatomy and physiology, chemistry, bacteriology, hygiene and sanitation, nutrition and cookery, elementary materia medica, elementary nursing and hospital economy, and the historical and social aspects of nursing. For those who may have covered some of these courses satisfactorily in their previous college work, elective courses in psychology, social economy, and possibly physiological chemistry will be offered. A number of special lectures on interesting phases of nursing and social work will also be given.

The college is making arrangements with a number of representative hospitals throughout the country to admit these students for an intensive two-year course of training which will include all the theoretical work usually given in a good nursing school, and a somewhat shorter period of training than is usually offered in each of the essential branches of nursing—medical, surgical, obstetrical and children's work. If at all possible, experience in contagious and mental and nervous nursing is also to be included, since many of these people will probably enter some form of public health work.

The list of hospitals agreeing to cooperate on these general terms will be included in the announcement, which will be distributed widely. Each candidate for the summer course will be directed to make application to any one of these hospitals (or if she prefers to an approved hospital of her own choice) and to present her letter of acceptance when she arrives. When the capacity of any training school is exhausted, she will apply to another and so on till she is placed. She will be pledged to go directly into the hospital on the completion of her summer course, and after a brief period of probation it is expected that she will proceed at once with the more advanced work, leading to the hospital diploma and the R. N. of the state.

In states where there is a three-year law requiring this full time to be spent within the walls of the hospital, it will not be possible to make the adjustments necessary for this group of students, but already a very encouraging response has been received from several prominent training schools in other states throughout the country offering to provide for groups of from fifteen to fifty each. It is hoped that there will not be any special reduction in the numbers of pupil nurses entering in the regular way, but that these extra pupils can be used as an auxiliary force to relieve the pressure on the existing staff and if possible shorten the hours of duty, to provide against the possible drafting of senior nurses for war service and also to insure a greater increase in the total output of trained workers.

The experiment will be closely watched by a large number of college officers, students, and alumnae whose interest in nursing has already been greatly stimulated by the proposed plan. It will also be followed with much interest by everyone who is concerned with the advance of nursing education.

Dr. McCracken, president of Vassar College, and Mrs. Blodgett, one of the Vassar trustees who has been most influential in pushing the plan through, both feel that the success of the summer course depends largely on the cooperation and support of the hospitals and of the nursing profession. They are anxious that the standards of nursing training should in no sense be weakened but rather strengthened by this plan, and they are hopeful that it may lead to a much wider participation by college women generally in hospital and public health work. Miss Julia Lathrop, head of the national Children's Bureau, has been one of the most enthusiastic supporters of the proposed course and is eager to get the services of numbers of such well-trained women for the infant welfare campaign which leans so heavily on nurses.

Nurses will be interested in knowing that the dean of the summer school will be Professor Mills, a member of the Vassar College faculty who some years ago earned the appreciation and thanks of every member of the nursing profession by resigning from the school board of Poughkeepsie as a protest against the appointment of an untrained woman in the position of school nurse. Professor Mills will be supported by a member of the nursing profession who will have direct supervision over the actual work and life of the students.

Further details about the course may be obtained by applying to Vassar College, Poughkeepsie, N. Y. Nurses and nursing organizations throughout the country are asked to cooperate with the publicity committee of the Vassar Alumnae by spreading information about the course and by interesting possible applicants in it.

THE PROPER WAY TO MAKE A BED

Conservation of Energy Effected and Neat Appearance of Room Preserved by Proper Methods

BY H. M. SCHELLER, Superintendent Sunny View Sanatorium, Winnebago, Wis.

Each sanatorium, large or small, has its own problems in saving steps and conserving the energy of its nurses. Every nurse off duty for illness is a loss to the institution; every nurse with broken arches, strained back, or varicose veins is a loss. Each institution has its own difficult problems and each must seek its own remedy.

One task known to us all is the tiresome task of making beds. The saving of many steps and the conservation of much energy may be accomplished by employing a proper method of bed-making.

Before entering upon the task of bed-making, have everything in readiness, such as clean linens, blankets, etc. In other words, let us train our heads to save our heels. The next step is to straighten the bed covers on the bed to be made, loosening them from foot and sides, using every precaution not to raise dust or lint. Begin at the head of bed and fold bedding toward foot in one fold. Then take hold of folded bedding at side, folding in about three folds, drawing the bedding toward you while folding. Place the bedclothes over the back of a chair, which has been previously placed there for that purpose.

In removing pillows from their pillow slips, place them on the bed, and remove pillows without shaking. After the pillow has been covered with a clean pillow slip, take a firm hold of it by one corner, holding it at your side, and give one good shake; then take the next corner; do likewise until all four corners have been shaken. This method brings all feathers to the center, making your pillow light and fluffy and very comfortable to lie on.

After the mattress has been turned, begin making the bed by placing bedding on the bed; unfold from side to side, and from top to bottom without shaking. Make every movement count.

If nurses will follow this routine in bed-making, their soiled linen as well as all bedding to be used will be neatly folded and the room at all times during the operation of bed-making present a neat appearance.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio
Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, O.

Food Value of the Banana

At this time, when almost everything in food materials has advanced very greatly in price, it is a relief to buy bananas, as we can get them for practically the same price that we have previously paid for them.

Again, while we are being urged to use fruit and vegetables "in their season," the banana is a source of relief, as it is available in the market in all seasons. It grows best, however, from November to April and is therefore at its best when many other fresh fruits are not so plentiful. It is unfortunate that an article of diet which may be obtained so easily and at such small cost is not given the place it deserves in our dietary, for it deserves much higher consideration than is usually given it because of its nutritive value.

It should be one of our staple articles of diet as, while it is not very high in carbohydrate content, the carbohydrate is in a form that may be eaten either raw or cooked, provided the fruit is thoroughly ripened.

In the green banana this carbohydrate is in the form of starch, but, as the fruit ripens, chemical changes take place, converting this starch into sugars, which are easy to digest, and forming essential oils and volatile ethers which give flavor. The more thoroughly the fruit is ripened the greater is the chemical change, making the banana the more easy of digestion.

The majority of people prefer the banana when the skin is yellow and assume that when it has brown spots it is not so good for food, when, as a matter of fact, it is then that it is best for food provided the skin is not broken. In the yellow stage the starch is still in the raw state and one is eating that which is similar to green apples or raw potatoes. The difference in flavor and ease of digestion between a banana thoroughly ripened and one in which the skin is yellow and the ends still tinged with green is about as great as the difference between a well-baked mealy potato and a potato that is half-cooked and soggy, or even raw.

Green bananas, like green apples, are not wholesome unless cooked, but there is no more reason for condemnation of the fully ripened banana than there is for condemnation of the ripe apple. Even the green banana may be eaten raw if it is masticated thoroughly, but it is much more palatable if baked or fried.

The protein and fat content of the banana is low, but if used as a vegetable with meat or other supplementary foods it forms a ration which will meet the needs of the body. Banana and cereals with cream, or bananas alone with milk or cream, make a very nourishing food for breakfast or luncheon. The banana and potato are very similar in caloric value; though it would not be advisable to substitute either of these for the other entirely, they may be used interchangeably to some extent.

The oninon is considered of value in the diet because of its mineral salts, which are base-forming minerals in the body; apples and bananas have more of these base-forming mineral salts than onions have, and therefore yield the same results in the body.

We are being convinced that in the proper stages of ripeness or when cooked bananas are not harmful for children. Reports from the Department of Pathological Chemistry, New York Post-Graduate School, state that from using bananas in dietetic treatment of patients with nitrogen retention, very satisfactory results have been obtained; Drs. Myers and Rose think that this fruit will be of great benefit in the treatment of nephitis.

The banana has been called the "poor man's fruit" and it has been looked upon as such. But why should it be? Dr. A. H. Hoy says in "Eating and Drinking":

"In this we classify fruits into natural food fruits and cultivated fruits. Under this arrangement will be found marked differences. The first fact is that the natural food fruits are all nourishing and free from digestion-inhibiting effects. The second fact is that those fruits which man has developed from wild, unpalatable varieties, which never were intended as food for man, into edible forms, are likely to produce abnormal conditions of digestion and interfere with nutrition when used as food.

"Let us illustrate this point. The date, the banana, and the fig are true examples of natural food fruits; they are today simply wild fruits. Man has not, by any process of forcing seedlings, cross-fertilizing, or grafting, changed their form or natural composition, or flavor; they are today the same fruits; that is, have the same composition of substances in them as first made by the Creator, and are, as we have shown, admirably adapted to man's use as a food, and are plainly intended for his use as such."

Two undesirable factors in the use of the banana should be overcome; one is the habit of not thoroughly chewing the fruit before swallowing it; and the other, is that the cover which naturally so well protects the banana from contamination is often torn when taking the fruit from the stalk. If we could teach the retail merchant always to cut his bananas from the stalk and thus keep them entirely enclosed in their natural covering, they would be the most sanitary of foods purchased.

Some Valuable Food Bulletins

The Trade and Technical Press Section of the United States Food Administration at Washington, D. C., is sending out weekly bulletins which are very valuable to one who is interested in any phase of our present food and market situation—and is there any one who is not interested? These contain "items from technical journals relating to economics in food, fuel, power, and transportation."

Many items in the bulletins are written in the interests of hotels and hospitals. The following are a few which have appeared during January and February and which touch on subjects of general interest and give us a point of view which differs somewhat from the popular idea:

WRAPPED SUGAR ECONOMICAL

The shortage of sugar has led to a rediscussion of the economy secured by serving wrapped lump sugar, a practice which some stewards report as economical, while others believe that unwrapped lump or granulated sugars are best. The managing steward of a big chain of lunch rooms tells the *Hotel Gazette* that wrapped sugar is most economical in his experience, and gives the following reasons: The cost of wrapping at the refinery is approximately 23 cents per thousand pieces. Many hotels and restaurants using unwrapped lump sugar have doled it

out in small paper bags during the sugar shortage, a method that costs approximately 57 cents per 500 bags, each containing two lumps. Wrapped sugar is not touched by hands, being wrapped at the refinery by machinery. Where a guest uses only one piece of sugar there is no waste, as when two or more pieces of unwrapped sugar are served. This steward maintains that, contrary to general belief, granulated sugar is not as economical as lump sugar in service.

DIET TESTS OF COTTONSEED FLOUR

A series of experiments with cottonseed flour was lately conducted at the University of Texas by Prof. Anna F. Richardson and Miss Jennie R. Bear, of the home economics department, according to the *Manufacturers Record*. Women students volunteered as subjects, and for five days ate a special diet made up of cottonseed flour in combination with corn meal, butter, sugar, and grape juice. Each subject has 100 gm., or about 3½ ounces of cottonseed flour in the form of bread. Results showed an average digestibility for the protein of cottonseed flour to be about 85 percent, placing it in the same class as other cereals and breadstuffs. The conclusions are that cottonseed flour contains a very high percentage of tissue-forming material, and will replace to advantage one-third of the wheat flour in ordinary diet. A bakery in New York City and another in Boston are reported to be regularly using cottonseed flour in making bread.

THE POWDERED MILK INDUSTRY

One of the greatest conservation factors in the dairy industry is found in the manufacture of powdered milk by processes which began to come into wide use about fifteen years ago. The last available census figures for 1914 gives the total production of powdered milk as 20,000,000 pounds a year in the United States, of which New York State made almost half, with Wisconsin second and Michigan third. Nine pounds of milk powdered represents 100 pounds of milk, and all forms of milk, such as whole milk, skim milk, buttermilk, and cream, are now dried successfully, as well as modified milk for infants' food. Dried milk products are in such demand that this country has never had a surplus for export. They are used in baking, ice cream, candy, and other products as well as by families, and offer a method by which a great surplus in a perishable food staple may be turned into imperishable form and held for market.

A SUGAR-SAVING CONFECTION

"Apple allies" are a new sugar-saving confection developed in the red-apple country of the Pacific Northwest by a woman who wished to devise a confection in which the minimum amount of sugar could be used and no butter. This is an apple slice, coated with hard transparent sugar, and the recipe is as follows:

Make a sirup of two cups granulated sugar, one cup water, bring to boil. Have ready one medium-size apple, pared, cored, each quarter cut into three pieces. Drop the twelve pieces in the boiling sirup and allow to cook or boil therein until they are all transparent and tender, easily pierced with straw. Remove from kettle, drain, and place on waxed paper or platter. Allow to remain twenty-four hours, then roll in granulated sugar; roll twice again at intervals of twenty-four hours. If moisture accumulates on the waxed paper renew it. Allow allies after third rolling to remain on platter until dry; keep in dry place thereafter exposed to air, turning from time to time. The amount of sirup stated will make five dozen apple allies, five apples being used. Add boiling water to sirup, as it thickens, to maintain original consistency.

Constitution of the American Dietetic Association

ARTICLE I.—NAME

This organization shall be known as the American Dietetic Association.

ARTICLE II.—OBJECT

To bring about closer cooperation between dietitians and those workers in allied fields in order that more effective work may be done in improving the conditions and raising the standard of dietary work.

ARTICLE III.—MEMBERSHIP

Charter membership shall consist of the active members present at the first meeting, whose fees are paid by April 1, 1918.

ARTICLE IV.—OFFICERS

1. The officers shall consist of a president, first and second vice-presidents, a treasurer, a corresponding secretary, a recording secretary, and an executive committee.

2. The executive committee shall be composed of the president, first and second vice-presidents, corresponding secretary, recording secretary, treasurer, and three additional members.

ARTICLE V.—AMENDMENT

This constitution may be amended at any regular meeting by a two-thirds vote.

By-Laws

ARTICLE I.—MEMBERSHIP

There shall be one class of membership, viz., active.

Section 1. Persons eligible to active membership shall be: (a) graduates of at least a two years' course in home economics, from a recognized school; (b) graduates of a one year's course in home economics (prior to June, 1917), who, following graduation have had one year of successful experience in dietetic work; (c) research workers who have contributed to the advancement of dietetics; (d) practicing physicians in good standing; (e) persons whose special work is allied with dietetics.

Section 2. Application for membership shall be presented in writing to the corresponding secretary and shall be endorsed by at least one member.

Section 3. Membership shall cease upon non-payment of dues only after written notice from the corresponding secretary.

ARTICLE II.—MEETINGS.

The time and place of the annual and special meetings shall be determined by the executive committee.

ARTICLE III.—FEES

The annual fee shall be one dollar, payable at the time of the annual meeting.

ARTICLE IV.—STANDING COMMITTEES

Standing committees consisting of three members appointed by the president, and ratified by the executive committee for rotating term of three years, so arranged that one member be reelected each year. These committees shall comprise the following:

1. Nominating committee shall prepare the ballots.

2. Membership committee shall endeavor to increase the membership, and shall investigate qualifications of applicants, act upon such application and report decision to corresponding secretary.

3. Program committee shall arrange for program for annual and special meetings, submitting such plans to the executive committee for ratification three months prior to date of the meeting.

4. House committee shall have the power to make arrangements for the housing of the association for the annual and special meetings.

5. Additional committees shall be elected or appointed from time to time as the association shall direct.

ARTICLE V.—ELECTION OF OFFICERS

Election shall be by majority of votes cast.

ARTICLE VI.—QUORUM

Quorum shall consist of ten active members.

ARTICLE VII.—AMENDMENT

The by-laws may be amended at any meeting regularly called, by two-thirds vote of those present and voting, provided due notice is given in the call.

ARTICLE VIII.—DUTIES OF OFFICERS

1. The president shall preside at all meetings, and conduct them by a formal order of business, and shall perform the other duties usually belonging to this office. In case of her absence these duties shall be performed by the first vice-president.

2. The vice-presidents shall hold themselves in readiness to assist the president at any time.

3. The recording secretary shall keep a correct record of all meetings, reports of same to the necessary press representatives, and read to the association, minutes of meetings.

4. The corresponding secretary shall answer all letters relating to association affairs, and preserve all papers, also notify all members of special meetings, and of the non-payment of dues; shall keep a correct list of members and addresses, and attend to all other business relating to association membership and documents.

5. The treasurer shall receive, collect, hold and pay out all association moneys, subject to order of the president; also keep a correct account in detail of all moneys received and expended by her, and shall render her report in writing at the anual meeting.

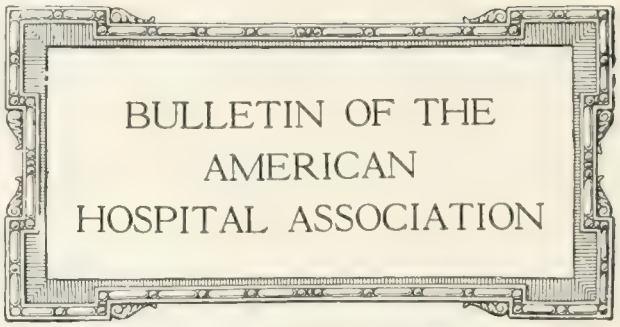
6. Officers shall be elected every year, and shall be eligible to reelection. A vote of members present shall be necessary to an election.

Few people realize the important part which the teeth play in the process of digestion, and comparatively few people give their teeth proper care.

Particles of food may lodge between the teeth, which, if allowed to remain there long enough, will ferment. Organisms present in the mouth, together with this fermented food, may form a deposit on the teeth; or a deposit may be formed consisting of these bacteria of the mouth, epithelial cells, and calcium carbonate, which is known as tartar. From these deposits on the teeth an infection of the mouth, throat, or nose may result; possibly causing tonsilitis, quinsy, or similar difficulties.

A habit of thoroughly cleansing the teeth lessens the danger of tooth infection or pyorrhea. Observation in the clinics of some of our larger hospitals, as well as elsewhere, leads us to believe that many gastro-intestinal disorders may be traced to neglect of the teeth. Mayo evidently has proved to his satisfaction that ulcers and cancers of the stomach and duodenum are due to dental neglect or infection. Another authority says that 80 percent of cancer of the stomach patients have pyorrhea with chronic gastritis before the cancer develops.

With decayed or defective teeth the food is not properly masticated. It is obvious that if the food is not thoroughly chewed before swallowing it is not as finely divided as it should be in the stomach. The digestive juices cannot penetrate the large particles of food completely or quickly, digestion is retarded, and food remains longer in the stomach than it should. Before it becomes acid, bacterial action may cause decomposition to begin, which continues in the intestines. Products of fermentation enter the blood, causing fatigue and headache. If the habit is persisted in, as it usually is, constipation or some form of indigestion follows, which may lead to more serious diseases.



Monthly Bulletin issued from the Executive Offices
728 Seventeenth Street, N. W., Washington, D. C.
WILLIAM H. WALSH, M. D., Secretary.

War Service Committee

A representative of the committee has been at the office of the association in Washington at least two days in every week in order to keep in touch with the military situation so far as it affects hospitals, and the chairman has had frequent correspondence and interviews with the War Department with regard to hospital matters.

The answers to the questionnaire issued in December have been compiled and reports filed with the Surgeon General's office and the National Council of Defense.

Unfortunately, a very considerable number of hospitals failed to reply, and, as the information gathered was for immediate use, there was not time to follow up the delinquents. The material gathered was sufficient, however, to present a picture of the present situation which is valuable.

The field of inquiry represented 858 hospitals and 777 training schools, with a normal staff of 3170 interns, of whom 868 were already in war service, and a visiting staff of 17,548, of whom about 4000, or 24 percent, were already in service or on call. This represents practically all the hospital physicians who are available for war service after taking into consideration age, infirmites, unavailable specalties, and duplication of appointments, and exhibits a very generous response by the medical profession to the call of the military authorities.

Remarks received on the intern situation are interesting. A few indicate at least cheerful resignation, as: "At present no difficulty"; "Doing quite well without Army"; "Would as soon have fourth-year students as graduates." Generally, however, the remarks as well as the figures indicate a serious condition, as: "The situation is maddening'"; "Deep gloom"; "Embarrassing"; "Deplorable"; "All taking situation seriously."

Many hospitals are using medical students, but it is said they are unsatisfactory "because of breaking up of time for necessary school work." Other hospitals are employing women physicians, but this source of supply is approaching exhaustion, as indicated by the following: "Although our interns have always been women, we feel the shortage due to war."

While most hospitals reported depletions of a considerable proportion of their interns, over 50 had been entirely deprived of this service. One respondent tried to summarize the situation as follows: "All good interns are in France."

A meeting of the war service committee was held in the office of association on February 7. The chairman reported interviews and conferences with the War Department indicating that the plan of using civilian hospitals for military purposes was receiving consideration by the department. The committee, in accordance with the reso-

lutions adopted by the convention at Cleveland, has been urgently advocating such a scheme.

It was noted that the situation with regard to the drafting of interns is not yet satisfactory, but that in confidence that condition will gradually be improved through the action of the Surgeon General's Office, no further action is necessary at the present time.

It was also decided to suggest to medical schools the advancement of medical students to internships, with the cooperation of hospitals, as rapidly as possible in order that they may have the benefit of hospital experience as fully as possible and be the better prepared for military service where required.

Suggestions for Conserving Food in Institutions

The following letter has been received from the United States Food Administration:

"In response to your request for information concerning food conservation in institutions, we would say that we have a committee working on this problem and we hope that this committee will be able later to give very detailed and definite information as to the help the institutions should give. In the meantime we would make the following suggestions:

"I. Appoint some member of your staff to make a study of the way in which food is used in your institution.

"A. Desirable characteristics of the person selected.

"1. Trained in institutional work.

"2. Acquainted with measures adopted by some foreign institution for food conservation or ambitious to acquire this information.

"3. Trained in nutrition and dietetics or ambitious to acquire a working knowledge of this subject as rapidly as possible.

"B. Duties of the person selected. In consultation with the hospital housekeeper, she should have the following duties:

"1. A scientific feeding of theinmates of the institution.

"2. A knowledge of market conditions.

"3. Responsibility for knowing the food administration measures and devices.

"4. Checking up stock cards for comparison.

"5. Elimination of waste in the institution through careful buying, carefud preparation, careful serving of leftovers.

"6. Instructing the help in the seriousness of the food situation and their responsibilities for service.

"7. Plans for making a study of waste.

"II. These specific directions for conserving food should be followed in your institution:

"1. Do not use meat oftener than once a day.

"2. Observe one meatless day each week.

"3. Use less beef, mutton, pork, ham, and bacon.

"4. Fish may be used.

"5. Replace meat with milk and cheese, or make meat go a long way by using it with other foods as a flavor.

"6. Use nuts and legumes, and whole cereals supplemented with milk, cheese, and eggs to replace meat. (With the exception of the soy bean, none of the legumes, nuts, or cereals are good meat substitutes, unless supplemented as directed.)

"7. Use soy beans to replace part meat, because it has been recently determined that soy beans may be used successfully in this way.

"8. Use less wheat and more corn and oats. Wheat-saving breads can be made by substituting 25 to 35 percent corn or oats for wheat. These will be entirely digestible if the corn or oats are made into a thoroughly cooked mush before being combined with other ingredients in bread-making.

"9. Observe at least one wheatless day each week.

"10. If possible, plan not to use any white bread until the close of the war. This will be possible only if you are able to devise ways in your institution of making acceptable war breads which are readily digested.

"11. Utilize all stale bread. Old bread may be ground to a powder and used to replace 25 percent of the flour in making fresh bread.

"12. Use more potatoes and fresh vegetables.

"13. Do not use more than three-quarters of a pound of sugar per capita per week. Molasses, corn sugar, corn syrup, honey, and sweet fruits and milk will supplement sugar in the dietary. Sugar is a palatable, desirable, but not necessary food. If one part of honey is mixed with two or three parts of corn syrup, an acceptable sweetening mixture may be produced.

"14. Economize in the use of fats by decreasing the use of fried foods, by making pastries containing one crust, by reducing the consumption of cakes and rich breads, and by preventing any waste of fat in the institution.

"15. After meats are purchased, these should be trimmed with great care to remove the fat before cooking and prevent its loss on the plate after serving. If the meat is improved by being cooked with the fat, the fat may be trimmed before being cooked and may be cooked with the meat and recovered as drippings.

"16. All waste fat should be utilized directly or indirectly for soap making.

"If you wish to be sure that the individuals in your institution are being efficiently fed, the following suggestions may be valuable to you as a guide:

"Not more than about one-third of the total protein of the day's meals need be served as animal food. A glass of milk, an egg, two ounces of meat, or one ounce of cheese would give sufficient animal food.

"One-third of the protein should be furnished by some cereal food, and wheat bread, cornmeal, oatmeal, or other cereal. Nine slices of bread, or one cup of cornmeal, or two cups of rolled oats give approximately this amount. Part of each may be used.

"The remainder of the protein should be furnished from mixtures of the following foods: legumes, nuts, vegetables and fruits."

A new curriculum for the training of nurses at the University of California was approved by the California State Board of Health at a meeting held recently. The new plan allows a 3-year course in the university, to be followed by two years in the training school at the University Hospital, in place of the three years in the hospital formerly required. It also provides than one year's credit will be given to women graduates of the University toward a three-year nursing training course in the hospital. The same kind of an arrangement is in effect at Stanford University.

Opportunities do not come with their values stamped on them.—Maltbie Davenport Babcock.

INDUSTRIAL REHABILITATION OF DISABLED SOLDIERS AND SAILORS

Conducted by ELIZABETH G. UPHAM,
Director Art Department Milwaukee-Downer College.

The Problem of Rehabilitation

The great war is calling the attention of the world to the tremendous problem of rehabilitation. The experience of all the belligerent countries has proved conclusively that the best of medical treatment cannot, in all cases, bring about complete restoration. Medical science may enable the patient to physically perform certain duties, but it cannot make a productive citizen out of him if he has become institutionalized during convalescence so that mental and moral deterioration have actually taken place. Rehabilitation completes the purpose of medicine and surgery and makes possible the adjustment to economic life.

Realizing that rehabilitation is a new and special science, that it is a distinct and separate field of service from nursing or medicine, but is, nevertheless, a hospital problem, THE MODERN HOSPITAL is opening, in this issue, a new department entitled "Industrial Rehabilitation of Disabled Soldiers and Sailors."

While the war emergency of providing for the men returning from the front is imminent, the fundamental principles of rehabilitation apply equally to the civilian cripple and the industrially handicapped, who not only exist at all times, but, in reality, far outnumber the victims of war. In 1913 the number of serious industrial accidents involving more than four weeks' disability was estimated at 700,000. In spite of the safety movement, accidents have increased since 1913 with the larger production, longer hours, and greater numbers employed. On a basis of a million men overseas and the Canadian estimate of 10 percent of the men returned disabled for service, 100,000 is only one-seventh of those invalided by industrial accidents. In 1910, in the United States, 1,953,000 patients were treated in public and philanthropic hospitals and 2,440,000 were treated in free dispensaries. It may be readily guessed what proportion of the industrial efficiency of these 4,393,000 patients might have been increased, if not actual dependency prevented, by rehabilitation.

The Department of Industrial Rehabilitation will attempt to analyze the various medical, social, and economic phases of the problem, giving the experiences of foreign countries, progress in our own, and summaries of legislation and conferences relating to this great work.

The subject of rehabilitation is so tremendous and so closely bound up in the nation's responsibility of caring for the men as provided in the war risk insurance bill and the preparations of the Surgeons General of the Army and Navy that the entire problem is now before Congress. The Senate within the past two weeks has passed resolutions calling for such information bearing upon the rehabilitation of disabled soldiers and sailors, as the War Department and Federal Board for Vocational Education could furnish.

With the wealth of experience the belligerent countries have gained, America may enter the war fully aware of the fact the best medical, nursing, and rehabilitating care will be given her men from the wounding in the trench to their final placement in industrial, commercial, or agricultural pursuits. "No man need be a cripple unless he wants to be," "No more soldiers' homes; each soldier has his own home," and "Preparedness for after the war" are the modern slogans, not only for the welfare of those who have risked all in service, but for the period of reconstruction to follow.

While the war has enriched the world's knowledge of the need for rehabilitation and has established certain methods and proved the value of occupational therapy in long convalescence, it must be remembered that occupational therapy is not a new subject, and that serious attention was given to it before the war. Its sudden prominence has been due to its recognition as an indispensable factor in the rehabilitation of war victims. It is therefore fitting that the first number of the Department of Industrial Rehabilitation of Disabled Soldiers and Sailors should contain a brief account of the study and place of occupational therapy before the war, and its possibilities of development. The following is therefore quoted from Senate Document No. 167, entitled, "Rehabilitation of Disabled Soldiers and Sailors. Training of Teachers for Occupational Therapy":

"Occupational therapy is neither a new movement nor one which has suddenly come into prominence through a spectacular publicity campaign. It is, rather, a movement which has gradually developed by justifying itself over a long period of years. It was initiated by the doctors in insane hospitals who first dared the experiment of putting their patients to work, and by those other doctors who were groping after something which might give to their neurasthenic patients a healthy interest and a new grip on life. The healing value of occupation is so well established that occupational therapy is no longer confined to the insane or neurasthenic but has been found equally beneficent in tuberculosis, in long orthopedic treatments, and in extensive convalescences in a general hospital.

"The crafts with their variety and scope are well adapted to the needs of the occupational therapeutist. A craft is quickly learned, the equipment is simple and inexpensive, and varying degrees of mental or physical exertion are possible. Art and craft are closely interwoven, and art especially affords a channel for self-expression, which is in many cases the keynote of the success of occupational therapy. There is in the crafts just that poise, opportunity for creation, and interest in execution which on a first glance seems to counteract strain, overspecialization, and the monotony of the factory system. It is not strange that those doctors who see the disastrous by-products of modern industrialism should favor the crafts and simple hand industries as occupations well fitted for the hospital workshops. Occupational therapy has justified itself purely as a medical agent and has proved beyond a doubt the value of occupation as a therapeutic measure. The crafts have met all the therapeutic qualifications of occupations and the tendency has therefore been to consider them the logical channels of expression and to require a knowledge of art and craft in the training for teachers.

"Occupational therapy has up to the present made no pretense to provide vocational training. Yet the instruction received during convalescence has been of direct economic value to a few patients who, after a hospital experience, have been better equipped for earning their living. The children's teacher in connection with the City Hospital of Cincinnati gave instruction to several convalescing young men, with the result that they secured better positions after leaving the hospital than they had held before, and a few even passed civil-service examinations. The reason that these cases are as rare as they are may be partly due to the fact that the institutions which have

adopted occupational therapy are not, as a rule, those to which the workingman goes, unless he be tubercular or a chronic invalid. With the possible exception of Massachusetts General Hospital, the City Hospital of Cincinnati, the Bloomingdale Hospital, the Philadelphia General Hospital, the Cook County Hospital (Chicago), the Latter Day Saints' Hospital, Salt Lake City, and a few others, they are either private sanitariums, dependent upon paying patients for support, or else county, municipal, or state institutions for chronic invalids or insane, dependent upon public support.

"The patients in the private sanitariums are largely drawn from the leisure or professional classes. Although a few of these patients may later earn their living as craftsmen or craft teachers, none of them will, in all probability, enter the trades. For these patients the crafts prove a resource and meet all the needs of the occupational therapeutist. On the other hand, the majority of the patients in public institutions are so chronically subnormal that there is little hope of their ever engaging in competitive industry. The crafts are palliative for these patients; they help to maintain discipline, and, in some instances, they enable the patients to earn something under direction.

"Thus it is that the two types of institution which have largely adopted occupational therapy are not those in which the loboring classes convalesce. With the exception of a few striking cases of patients who have found their occupational training in the convalescing shop to be of economic value, the majority of the patients of the laboring classes who have had occupational therapy during convalescence are rarely able to make any practical use of craft training, and consequently either return to their former trades or to new unskilled or semiskilled trades. If they do follow their craft training, their future is somewhat precarious, for in such cases they are dependent, in a large degree, upon the fickleness of markets, upon fads, or upon the generosity of the public.

"The present limitations of occupational therapy are, first, overproduction of certain articles dependent upon an unstable and varying market, and second, failing to offer training of economic value to the convalescent workingman. In order to study how occupational therapy may, while retaining all of its therapeutic value, at the same time reach and benefit all classes to the fullest extent, it will be necessary to analyze the purposes of occupational therapy. It is, of course, impossible to cover the specific occupations and technic of teaching for each handicap, as the range of disabilities is wide, varying from the most obvious deformity to the subtlest psychosis and neurosis. There are, however, a few general principles common in the teaching of all. Occupational therapy aims first to create a wholesome interest in something outside the patient's morbid interest in himself and his symptoms; second, to fill the unoccupied portions of the patient's day; third, to prepare his mental attitude so that he may adjust himself to normal demands and environment after hospital discharge; and, fourth, to facilitate medical treatment by regulated exercise.

"These results may be achieved by a large variety of occupations, and many practical vocations are quite as instrumental in accomplishing these as the crafts. For instance, soldering tin cans, joints, wire, tinsmithing, and electric wiring involve many of the processes used in metal craft, and the manufacture of leather goods, bags, belts, travelers' cases, and fancy commercial articles may be quite as interesting as hand tooling or illuminating. Bookkeeping, salesmanship, general education, stenography, telegraphy with bedside ominigraph may serve all the purposes of raffia work, tying knots, or other invalid occupations. Furniture making holds many of the possibilities of manual training and wood carving, while the study of the gas engine, motor mechanics, and construction work has an endless number of possibilities. Commercial design, architectural drafting, sign painting, lettering, and printing have many points in common with fine arts, drawing and painting, or stenciling and block printing. If the hospital is in the country or where patients come from rural communities, lectures and demonstrations of soils, principles of farm management, and sanitation of the dairy may pass many a weary hour. Wherever possible, practice in the hospital garden, poultry yard, or orchard should engage the prescribed exercise as well as games and walks. Such activities will meet all the requirements, namely, divert the patient's attention from himself, fill his unoccupied time, give him a wholesome mental attitude, and regulate his bodily activity.

"There are, however, real dangers and drawbacks in introducing such work into the hospital curriculum: first, the danger of the choice of the wrong occupation; second, the danger of the wrong presentation of the right occupation; and third, the harm of keeping the patient in touch with the same occupation, whose technicalities have possibly been the very grind and monotony which may have contributed to his breakdown.

"The choice of the wrong occupation may have disastrous consequences, as a sound phobia would be intensified by telegraphy, nervous exhaustion increased by the close application of shorthand or bookkeeping, rheumatism accentuated by many of the strained positions of gardening, and the cardiac patient positively in danger in a machine shop with belts and possible uneven muscular exertion.

"If the right occupation is selected, any therapeutic value it might have had may be nullified by failure to arouse the patient from his apathy or by overstimulation and exertion. It must be constantly borne in mind that the patient is temporarily or permanently subnormal, that he is unfit to acquire training in regular channels, that he comes to the hospital primarily to recover, and that all other benefits must remain entirely secondary to this.

"These two dangers exist no more for practical occupations in the hospital workshop than they do for the so-called crafts. The success of occupational therapy does not lie in any particular craft or trade, but rather in the skill with which it is selected for the particular disability of the patent, and the technic of allowing the patient's reaction, temperament, and fatigue to form the basis of teaching.

"The third danger applies strictly to practical rather than to semiesthetic occupations. When the occupation can be so taught that it is not a repetition of the grind that the man has been subjected to, but rather opens new possibilities to him and increases his earning power, it is not to be weighed in the balance with a mere resource, which in all probability the patient will never have time or means to enjoy. The further enriching of the patient's background by better education, by practical resources, and by a knowledge of hygienic living, renders his convalescing of lasting value."

The experience of the belligerent countries has amply demonstrated the greater value of the practical occupation for the convalescing men. They respond far more quickly to an occupation which is "a man's job" and leads to future usefulness. The Germans have wasted no time on raffia and uselss crafts, but have applied the simple occupation remedy to work of a practical type. A blow pipe of a light kind was devised for the handicapped man and Germany as early as 1916 had 20,000 of her cripples called "Kautny's Army" all trained to be expert oxyacetylene welders. By the aid of *Arbeits-therapie* it is claimed that Germany uses 85 to 90 percent of her disabled back of the lines, and the majority of the remaining 10 to 15 percent are entirely self-supporting. Occupational therapy is used in Austrian hospitals. Belgium was the first of the allied nations to provide systematic occupational treatment; reeducation centers in France are under the direction of the Office Nationale des Mutilés et Reformés de la Guerre. Great Britain has established hospital workshops as a regular part of hospital equipment in England. The report of the Military Hospitals Commission of Canada, May, 1917, says: "Before the vocational education was introduced, many of the men dreaded to be discharged and cut off from military pay and allowance, but since the classes have been well established, some men who have gained new wage-earning ability from their acquired technical knowledge, often welcome their discharge, and boldly step into better positions than they ever occupied before." Australia and India have provided courses of reeducation. New Zealanders are trained in England in many cases,

while still undischarged from the army. A special institution is established near London for training disabled South Africans. Italy is training her disabled agriculturists to use a motor tractor instead of the plows, little changed in type since the time of Virgil. In Russia, it is said, provision has not been made for reeducation, and a pathetic and not infrequent sight is the disabled soldier begging in the streets.

The war has taught the value of practical training and shown vocational opportunities, and the economic adjustments possible for the disabled. It marks a new conception in the scope of occupational therapy and its future development is destined to include all classes and types of long convalescences, and not only assist in curative treatment, but take cognizance of the industrial world and prepare the handicapped, so far as possible, to become independent economic units.

What Shall We Do for Our Crippled Soldiers?

BY JOHN S. DENNIS, Colonel Second in Command, British Canadian Recruiting Mission in the United States, Western Division; Chief Commissioner, Canadian Pacific Railway.

It is interesting and gratifying to note the application of thought and skill with which Canada is undertaking the great problem of caring for those of our soldiers who have received injuries in the battles against the Huns. Napoleon would change his opinion that "republics are ungrateful" could the "Little Corporal" learn of the plans now being worked out for the care and retraining of our boys who are returning crippled and maimed from the trenches of Flanders and Belgium, so that they will be able again to take their places in the ranks of self-supporting soldiers of industry.

We have only to turn back to the history of the Civil War to learn the reason for Napoleon's declaration. The

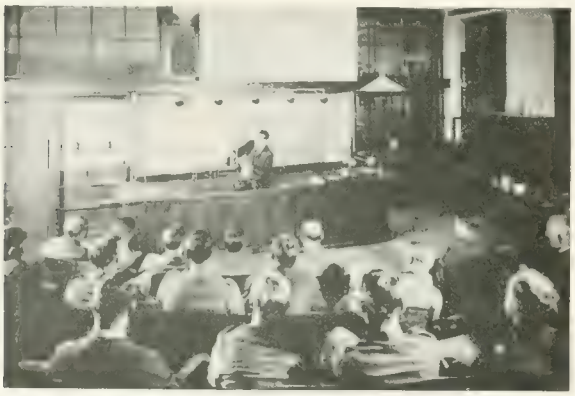


Fig. 1. The Provincial Institute of Technology and Art at Calgary, Alta., has been turned over entirely to the retraining of returned soldiers. This picture shows the class in gas engine and automobile mechanics having a lesson on static electricity.

maimed veterans of the Union army were received as heroes, banqueted and feted, provided with artificial limbs, consigned to the class of public charity, and all too soon permitted to drift into the almost hopeless battle for a livelihood in a world that promptly forgot their heroic deeds. Little wonder that almshouses under the name of soldiers' homes were soon found necessary in every section of the country.

Canada is going about this great problem in an entirely different manner. The Military Hospitals Commission has inaugurated the principle that it is as much the duty of the state to prepare the crippled soldier for the battles of civil life as it is to provide him with the proper medical and surgical care for his injuries. Vocational training, even during the period of convalescence in the hospitals, has already demonstrated the wisdom of this plan. Many men who have suffered such severe losses as that of an arm or a leg or the sight of an eye have been enabled, through the training provided under the commission's direction, to earn a better living than before they enlisted for overseas.

But so far Canada has only worked out the test, as efficiency men say. It has been demonstrated that vocational training of our crippled soldiers is an economic saving to the body politic—that their value to the state is greatly increased, and that, in place of being public

Fig. 2. Two men who took the course in automobile mechanics at the Provincial Institute of Technology and Art at Calgary, have reenlisted in the motor transport, one as a sergeant in charge of the repair work. These men suffered from abdominal wounds, and, while skillful surgery resulted in a very satisfactory recovery, they never will be able to do heavy work again.

charges, they can be made independent and self-supporting. There is an insistent demand for a broadening of operations, however. The Military Hospitals Commissions and the provincial commissons have not as yet been able to handle all cases promptly. We cannot blind ourselves to the fact that we shall have a much larger number of charges yet to care for. Were the maimed and crippled from the Canadian army now in the hospitals in France and England to be suddenly transported to our shores we would be literally swamped with patients and could care for but a small percentage.

This enlargement of the scope of this work should not be undertaken upon a temporary basis. It will take time to properly train these men. Some will be more adept than others. But the initial investment required to build training schools and homes will bring a big return during the years to come.

At the present time the United States maintains nine national homes for disabled soldiers, which were erected at a cost of $6,771,427. The number cared for in these homes is upwards of twenty-five thousand yearly—mostly disabled veterans of the Civil War, which was ended more than fifty years ago. In addition to these national homes, practically all of the Northern states maintain state homes for disabled soldiers, in which a total of some twelve thousand veterans are cared for annually. These homes are practically almshouses with Federal and state governments providing the maintenance.

No attempt was made in establishing these homes to train the maimed so that they could overcome the handicap of their injuries. The loss of an arm or limb or an eye was considered of such a permanent nature that the patient must be cared for as a public charge for the balance of his life. Perhaps this was because of the lack of knowledge of the possibilities of vocational training; per-

haps it was but the shifting of government responsibility. It must be said, of course, that not all disabled soldiers of the Union army entered these homes. There were many who fought out their individual handicap and finally succeeded in training themselves to fight life's battles successfully.

Let us assume that Canada invests one-half of the money in so-called soldiers' homes that the United States did, roughly, $5,000,000, and that we started out to make these homes technical schools as well as hospitals. How

Fig. 3. The chemistry of gases and of electric batteries is a part of the course in automobile and gas engine mechanics at the Provincial Institute of Technology and Art at Calgary.

many lines of industry could eventually be supplied with trained workers from such a source! Canada needs skilled farmers to wrest the wealth that nature has so abundantly stowed away in our prairies, or even in the farms of the older settlements of Quebec and Ontario. What better way for the state to provide these expert farmers than to educate as many of these disabled soldiers as show a leaning toward agriculture?

Fig. 4. Classes in typewriting and stenography are popular with men whose disabilities are such they are unable to stand any sort of outdoor exposure. One young man suffering from chronic bronchitis due to exposure in the trenches received instruction in bookkeeping, stenography, and typewriting, and now has a position in the Dominion Forestry Department at a salary of $100 a month.

There is too much haphazard employment at the best of times; and with the flood of men having to be placed simultaneously, there is a greatly increased danger of shoving them into places without regard to suitability. Putting square pegs into round holes does not pay. We must use brains and ingenuity in forming our plans for doing the best that can be done for and with the returning men. Good people often say to them, "Nothing is too good for you." It is easy to talk like that, in vague generalities, but we have got to come down to particulars and find out in detail what is best for the men—yes, and for each particular man, with his individual capacities and aptitudes.

Surely the soldier who has risked his life and lost his limb or has been otherwise disabled deserves the very best that the state possibly can give him. It is not charity—but justice. The productive value of these retrained soldiers will be an addition to our assets rather than a charge and a liability.

During the fifty years since the Civil War the United States has paid out more than a billion dollars in pensions to veterans and their dependents. No one can deny the duty of the state to provide for the disabled soldiers. The pension is but a partial payment of the debt to the disabled hero. The debt includes, as well, all possible help so that he may, with the assistance of his pension and the special training in suitable vocations, be able to provide as well or better for his family as he could have done before he volunteered his services in defense of the Empire. This, like all other assistances, however, merely puts the man in a position to compete on an equal footing. He is in a better position to fight the "battle of life." But, no matter how much the state helps him, it is up to the man himself to make the best use of the advantages and to succeed.

The Surgeon

With Apologies to "The Sergeant."

Who is that man alert and keen
  With ears pricked up and body lean
With movements like a Ford machine?
  Why, sonny, that's the Surgeon.

Who drills with litters all about,
  "Fours" right and left you hear him shout,
Who looks as though he had the gout?
  Why, bless you, that's the Surgeon.

Who makes you strip and counts your ribs
  And calls your heart and liver his?
Has pills and powders on his phiz.
  Of course, sir, that's the Surgeon.

Who carries all the Army lace
  And looks for dirt in every place
And then reflects it in his face?
  Why, sure, that is the Surgeon.

Who sings a song of sanitation,
  Bugs, beetles, lice, and vaccination,
And talks about some ulceration?
  You got me, it's the Surgeon.

Who filters water, airs your bed,
  Insists on drafts upon your head,
And disinfects you 'til you're dead?
  Why don't you know, the Surgeon.

Who tells us that the Demon Drink
  Puts man completely on the blink,
Then pours a slug that makes you wink?
  You know! It is the Surgeon.

Alas! he has to do or die.
  Sometimes I wish he were on high,
But when I'm sick I sigh and sigh
  And quickly call the Surgeon.

—Lieut. W. O. Wetmore, M. R. C., in Jour. Am. Med. Assn.

THE WAR: ITS HOSPITAL, MEDICAL AND NURSING ASPECTS

FROM THE TRENCHES TO THE BASE HOSPITAL

How American Soldiers Are Cared for From First-Aid Post to Base—A Vivid Story by an Eyewitness

BY REGINALD WRIGHT KAUFFMAN, Special Correspondent of the Philadelphia North American and Accredited Correspondent With the American Army in France.

THE AMERICAN CAMP, Somewhere in France, Jan. 26.—It was as if we were in the cleft of an iceberg. Ice varnished the clay-cemented logs that walled our narrow trench; when either of us crouched a little lower into the freezing mud of the floor a crust of ice broke under us; from the narrow strip of sky overhead the stars, which seemed close enough for plucking, hung like so many icicles. For a long hour there had been no sound save the occasional crackle and tinkling of ice—we might have been alone upon our berg in an arctic sea.

"I'd rather like to know," I whispered—at night you always whisper in the trenches—"I'd rather like to know what it's like when a shell explodes in a dugout."

Whang!

A couple of hundred yards on our left the blackness blazed into sudden fire and instantly left us in blinding dark.

"Well," said Bill, "you've come to a likely place to learn."

My aching fingers could almost have touched the boy had the cold permitted me to stretch out my arms, and yet he was only just discernible.

Only just discernible and scarcely to be recognized for the American infantryman. In any cantonment from that at Ayer, Mass., to that of Anniston, Ala., the rawest reserve officer would have censured him, for his uniform had suffered the sea change that every one of our uniforms is suffering over here. The familiar service hat had been replaced by a fore-and-aft cap that covered his ears; a Red Cross knitted muffler hid all the lower portion of his face; he had raggedly cut off the skirt of his overcoat to his knees; when he worked his toes to stimulate circulation water gurgled in his broken boots. . . .

The shrapnel increased, and then there was a minute's lull.

"Now for the big show," said Bill.

I meant to ask him something. Perhaps I did ask it. I don't know. I don't even remember the tremendous bang that must have succeeded when the heavens seemed to split open and come tumbling down upon my head. . . .

". . . he's all right. . . . It fell in the next trench. . . ."

A man with a Red Cross brassard was bending over me.

"Look here!" It was another man with a brassard that now spoke. "This fellow's got his!"

It was Bill they meant. I caught broken phrases about a broken left arm and an abdominal wound, a request for a first-aid pouch and then the clear order:

"Stretcher this way!"

Out of the communication trench two more men trotted with a stretcher. On it they placed the inert thing that had been Bill, and with it, I following, they staggered, stooping behind clay mounds log buttressed, slipping and stumbling through the mud, now and then another shell blazing and bellowing close at hand.

We paused in a roomy dugout, where a surgeon was examining, by the light of a carefully shaded lantern, one stretcher's burden after another. Antitetanus serum was administered, a splint was applied to Bill's broken arm and some sort of temporary dressing to the torn abdomen.

"Field hospital," ordered the surgeon.

I saluted him. Bill, I said, was my friend. Might I—

"Go along with him. It will save us an orderly" . . .

The field hospital was a blaze of light, through which, attended by nurses and orderlies, another surgeon made his way between rows of the wounded. Gleaming knives cut blood-stiffening uniforms; rapid examinations were made; each patient was tagged with a card ordering what should be done with him.

"Hypodermic," said the new surgeon, when he came to Bill. . . . In five minutes a sleeping Bill, tagged for Base Hospital No. 18, was being lifted into an ambulance.

"So long," the driver said. "I'll see you at the rest station."

I heard him swearing softly as he cranked the reluctant motor. The ambulance trembled and lurched. I clung to the edge of the rear, and we lumbered into the dark. . . .

We reached the rest camp. Red Cross nurses came out with hot soup and coffee. We gulped them, the chauffeur and I; we gave as much as was safe to Bill and his living companion—we hurried on our way.

And so, at last, the winter sun rose. . . .

It was two hours past the meridian when we passed a sentry and entered the large gate.

"Say, is this a hotel?"

It was Bill's voice speaking. He must have been conscious for some time.

"No," I said. "And you mustn't talk."

But I knew we had come to Base Hospital No. 18. In the American trenches Bill had been wounded at 1 a. m. of a Saturday; by 2 p. m. of Sunday he was arrived at a perfectly equipped hospital, half a hundred miles behind the lines.

They didn't look unlike the grounds of a summer resort hotel, the grounds of that institution. Up on a hill stood the handsome old chateau with its carven doorway, with its armorial bearings and the motto, "Dei gratia sum quod sum"; gardens stretched, acre after acre, all around it. But a close glance showed that the war had converted it to a more useful purpose. Fifty new buildings had sprung up around the old ones, and buildings still newer—enough, I was afterward told, for a thousand more beds—were in process of construction just beyond the farthest wall.

I paused to make to a waiting young intern my report of our journey. Then I followed Bill to the room where they had carried him. He was in a frightful condition. For a week he had lived with death. He was mated to mud and familiar with filth. Caked with blood and clay, he was taken to a rude bunk. Nurses in speckless white removed his clothes. He was shaved; he was given the

luxury of a warm bath; he was wheeled into another room for the diagnosis.

"What becomes of his clothes?" I asked the intern. "Do you burn them?"

"Not much," he told me. "This army can't afford to waste uniforms. The British run hot irons over the seams—that's where the bugs live—but we use sulphur. We've got a huge fumigating plant; you must have passed it on your way in—we can put three mattresses into it at a time—three mattresses and six men's week's washing. Have to—there's no sun here in winter, and we must do all our drying by artificial heat. We even dry our wood by piling it around the outside of that boiler."

He had his pride and his grievances. The hospital had existed through its first couple of months without ambulances; it possessed no trucks of its own, even now, and not a single limousine—not so much as a runabout; the washing had all to be done by a pair of those miraculous French laundries on wheels, into which you throw dirty clothes that come out clean—miraculous, that is, but rather too greatly taxed in present circumstances; the place had been taken over from our Gallic allies only half developed, and yet—well, look at it! There was a capacity of 736 which, when the messrooms were turned into wards, as during last week's rush, could be stretched to 800; at this moment 681 patients were being cared for without the slightest strain upon resources; the institution was as first rate as any in America.

"The number of patients is changing all the time," said the intern. "I've known it to jump from 400 to 700 in two days without warning. And you can't count on orders. One night, a week ago, we got word to get ready for 160, and at 2 a. m. there were ambulances with 201 at the door."

While he was talking we were following Bill.

It would be all right, they told me. The broken arm was nothing, nor the superficial wounds on it; as to the abdominal injury, thanks to the fluoroscope and the nitrous oxide, a stay here under treatment and then a rest at one of the Red Cross convalescents' camps by the seaside would fit Bill for a return to the trenches long before our army should enter in force. . . .

Bill was in safer hands than mine. I felt free to look over the hospital.

Well, there are sixty-two Red Cross nurses at this place. They are cheerful, obedient, brave, and competent. . . .

"My girls," the head nurse told me, "sleep with their gas masks beside their beds—when they get time to sleep at all; they are on duty for just as long as efficiency will permit. They're often in the wet, they're generally in the cold, and they're always cheerful. I haven't heard a syllable of complaint since I came here." . . .

I left her and returned to the cot on which my trenchmate lay. His eyes were still closed, but he was breathing easily.

On his left lay a patient that, to judge from his conversation, had been a patient here for a long time. He was giving gratuitus advice to the soldier on the other side of him.

"You don't have to do here like you do in the camp," he was saying. "I mean you don't have to wring out your underclothes at night and put 'em between your blankets and sleep on 'em, so's the blankets 'll act like blotters and soak up the rain out of 'em. But you won't want no pajamas, either—these here Red Cross sweaters that the ladies knit back home, they're as fine nightshirts as they are overcoats."

Bill, as I'd noticed, has a way of regaining consciousness unexpectedly. He regained it now. His eyes were on me, and his first words were a question:

"Well, say, if this ain't a hotel, is it a rest camp?"

The veteran answered him before I could:

"Naw," said the veteran, "this ain't one o' them waystations on the road back. Not much, sonnie—you're home at last."

FRIENDS OF FRANCE*

The Field Service of the American Ambulance Described by Its Members

"Friends of France" is a collection of plain narratives, told in a matter-of-fact way by young American university men without any attempt to be sentimental, but the whole atmosphere of the book is so charged with the pure sentiment of patriotism, sacrifice, and splendid courage that the simple telling of the story will wind itself around your heartstrings.

The most striking thing about the book is the picture we get of France, wounded but undaunted, bleeding, but determined to fight to the end, and with it all, cheerful, courteous, and appreciative of the work these American boys have done, trying to balance in a way, the debt we owe. Mr. A. Piatt Andrew, the inspector general of the field service, has gathered together letters and stories written by the *ambulanciers*, each man from his own experience. The man who tells of Dunkirk and Ypres

writes in Kipling fashion what seems to be the impression all through the book our boys have of the *poilus*. "We saw them, quiet and busy in the silence and darkness beside the Yser, in the ping and whine of many rifles, and again we saw them on straw in dim-lit stables, bloody and silent, but not defeated. They gave us tobacco and helped us tinker our cars, and again they died in our ambulances and sometimes went mad. We saw them gay and we saw them gassed, we saw them idle, and we found the dark stream of their fading lives on our stretchers, we passed them stealing up like ghosts to action and we left them lying in long brown rows, beside the old roads of Flanders."

One from the section in Alsace, tells this:

"A young lieutenant, *blesse*, whom he had brought in his ambulance, moaned and cried out as they came over the bumps, and in and out of the shell holes on the road. The driver reproached himself, but after the *blesse* had been made more comfortable in the poste de secours, he sent for the driver and, holding out his hand, said 'You drive carefully. I know, for I have a car. I don't like to cry—but I have two broken legs—anything hurts me

*The illustrations accompanying this article are reproduced from "Friends of France" by courtesy of Houghton Mifflin Company. The original drawings are by Charles Huard and Bernard Naudin.

—but it is realy decent for you fellows to come here—it is really *trop gentil'* . . . ! and the driver went back to his car marvelling for the first of many times at the sense of sympathy which had made that pain-stricken officer think of him at all."

Another *ambulancier* sends in to his section inspector some good letters written in laconics, and trying to show that he is keeping cheerful in the midst of weather that

would dishearten a Hudson Bay Indian and during an almost continuous bombardment he still keeps his sense of humor. "Jan. 9—Took Maud [the name of his car] out in the morning with Hill at the wheel. Went first to Moosch then back to test Hill. Maud pronounced fit for military burial after Hill's autopsy. . . .

"Jan 10. Shell No. 1 arrives—every one to *abri*—Cate and I stay outside. . . . Last shell sent window, door and stove in on us and blew us off the bench. Peeped into the next room. All blown to hell . . . a very low p. m."

There are some very touching letters to the folks at home, abroad, and grandma, from one *ambulancier* who has been given the *Medaille Militaire* for conspicuous bravery in carrying the wounded under shell-fire, and

the letters are written cheerily to keep up the courage of the folks at home, while the shell-hole in the writer's peritoneum is healing.

The book closes with a long list of citations from the French government and official letters of thanks to The American Ambulance for the service rendered to France. The American Field Service as a body has been released, but the work its members have done and the spirit which sent them has made an indelible impression. How France feels toward them can best be told in the words spoken over the body of Richard Hall, the *ambulancier* who made the great sacrifice and lies in French soil: "Les Français n'oublient pas."

Friends of France. The Field Service of the American Ambulance, Described by Its Members. Pp. 345, with Many Illustrations. Cloth, $2 net. Houghton Mifflin Company, Boston and New York.

CEREBROSPINAL MENINGITIS AT A TRAINING CAMP

Sanitary Measures Employed in Checking the Epidemic at the United States Naval Training Camp, San Diego

In July, 1917, an epidemic of cerebrospinal meningitis occurred at the United States Naval Training Camp, San Diego, Cal., among recruits received from the naval training station at San Francisco, writes A. Farenholt, medical inspector, U. S. Navy, in the *United States Naval Medical Bulletin*. Sixteen cases occurred, one of which terminated fatally. The patients were all treated at the municipal isolation hospital, an institution maintained by the board of health of the city of San Diego.

The complement of the station at the onset of the epidemic was approximately 1,600 men, who were quartered in large buildings originally erected to display exhibits during the Panama-California Exposition.

A study of the epidemiological conditions present at the camp during the first days of the epidemic revealed two factors which were of prime importance in the spread of the disease, namely, the presence of carriers of the meningococcus and some general insanitary conditions existing in the buildings used for quarters, which tended to lower the resistance of the recruits quartered in them.

Dr. Farenholt describes the means employed in eradicating the disease, considered in two groups, namely: (1) a bacteriological survey of the entire command for the purpose of isolating and treating the carriers of meningococci; (2) the general sanitary measures applied to the camp.

"The general sanitary measures applied to the camp were as follows:

"*Ventilation of the exposition buildings.*—These buildings are large structures, designed primarily for the shelter of exhibits of various character. Their ventilation depended on currents of air entering through doorways and small ornamental windows placed generally midway between the floor and the roof. The heated air from the lower regions of the building ascended to leave through rows of ventilators in the sides of skylights on the roof. These ventilators were partly closed by wooden slats designed to prevent the entrance of rain.

"With this arrangement of the openings for ventilation, large volumes of stagnant air collected in various portions of the buildings. To remedy this defect a series of ventilating holes 5 by 2 feet were cut in the walls of each building, two feet above the floor, and the wooden slats in every other ventilator in the roof were removed. With these alterations the ventilation of the buildings became satisfactory.

"*Exclusion of new infection from outside.*—A recommendation was made to the Bureau of Navigation that no recruits be sent to this camp from other training stations until it was reported that the camp was free from infection, the epidemic having subsided, and the carriers among the present complement having been determined and isolated. The bureau approved this recommendation and no new drafts were received.

"In the meantime a detention camp having a capacity of 480 men and capable of some expansion was constructed

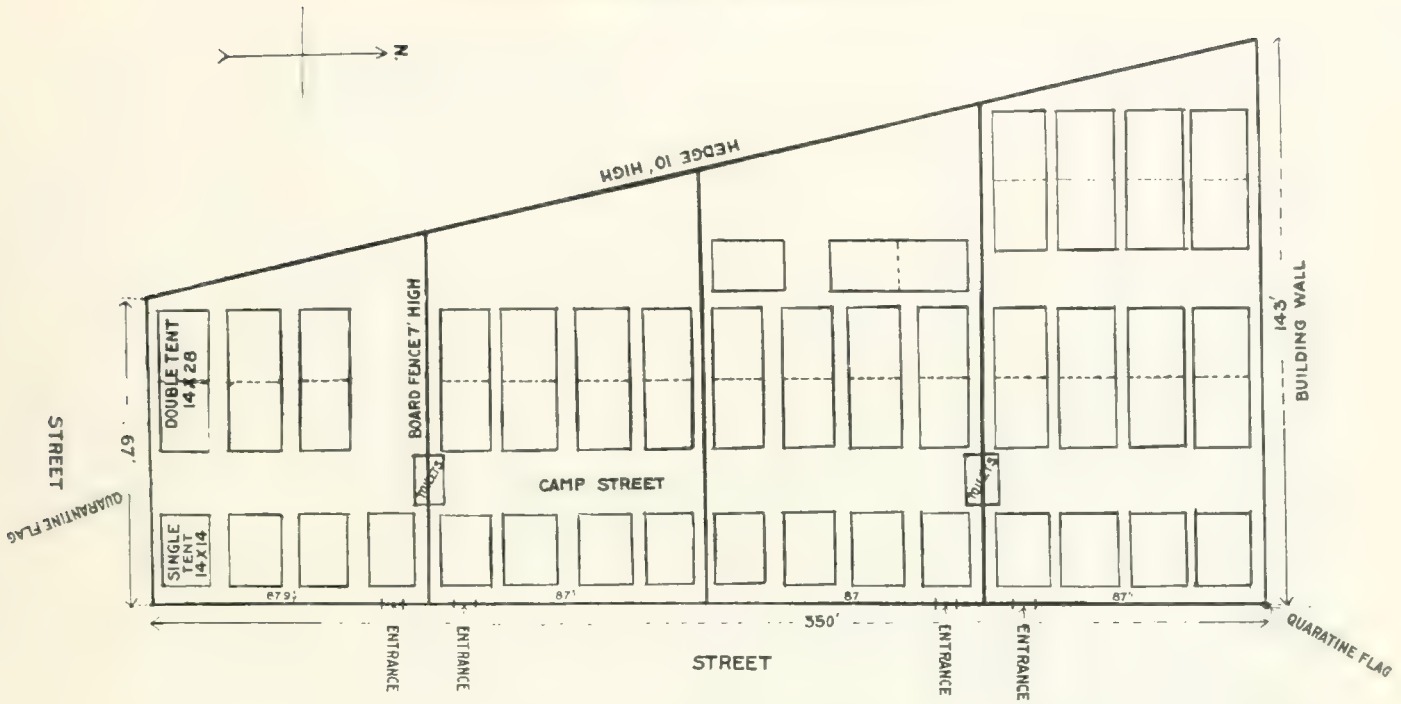


Fig. 1. Ground plan of isolation camp, showing division into four sections. Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

for the reception of all newcomers. In this camp provision was made for the complete isolation of the inmates in groups of thirty.

"Prevention of the spread of the disease to the city of San Diego.—As soon as it was realized that the occurrence of meningitis in the camp was assuming epidemic proportions, liberty for all men under instruction was stopped.

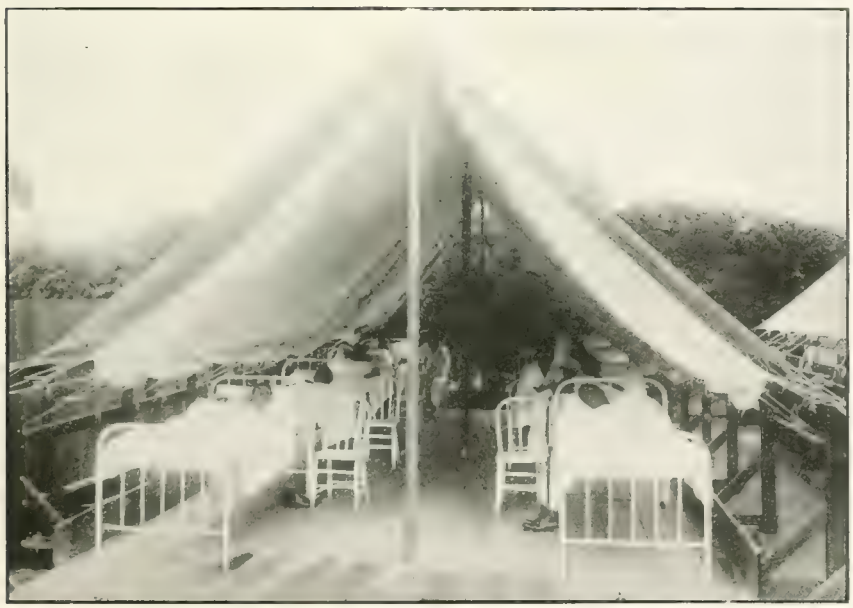


Fig. 2. View of tent used for bed cases at the isolation camp of the U. S. Naval Training Station, San Diego, Cal. There is one such for each paddock. Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

With the exception of the chief petty officers and a few of the older petty officers living with their families in San Diego, no man was granted liberty until a culture taken from his postnasal space demonstrated him to be free from meningococci. Furthermore, *the camp was closed to all visitors from the city.*

"The evacuation of infected buildings.—The majority of cases came from one large building used as a detention barracks for men lately arrived on the station, and from a balcony in the Southern California Building used as a ward by the medical department. As the weather conditions in San Diego during the greater portion of the year are ideal for outdoor sleeping, the men quartered in the detention barracks were moved out on a large lawn, where they slept on cots in the open air. They were kept in detention until proven free from infection. The sick in the ward on the balcony were isolated in tents and were not returned to duty until a culture from the postnasal space negative for meningocicci demonstrated them from infection.

"Segregation of the personnel in small groups.—As far as was practicable the men attached to the camp were segregated into groups of 200 or 250. These groups did not mingle so far as it was possible to prevent it. Each group was quartered, drilled, bathed, and messed separately from the other groups. A talk was given to each group concerning the epidemic, and the men were cautioned against close contact.

"Disinfection by sunlight.—As the meningococcus has little resistance, advantage was taken of the abundance of sunlight prevalent in San Diego. Large frames were constructed, upon which the bedding was placed daily and allowed to remain flooded with sunlight until late afternoon. The mess tables, which at first were set up in a large building used during the fair as a restaurant, were moved out into a broad street, where they were exposed, with the mess gear face up, to the direct rays of the sun throughout the day. The men were kept out of doors as much as possible, with the result that the entire command soon assumed the tanned aspect of sailors who had cruised long on tropical seas.

"The ground available and used for this purpose [isolation camp] is a somewhat irregular rectangle, 350 feet in length, 67 feet in breadth at one end and 143 feet at the other. This space is divided into four sections by board fences eight feet high; a high wire fence surrounds the camp. Each section holds eight tents 14 by 14 feet, hospital size placed two to each platform on the lower row, and four tents 14 by 14 feet on the upper or street row.

Fig. 3. View of camp street (see plan, Fig. 1). Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

A street twelve feet wide runs between these two rows. One single tent is used as an entrance, Hospital Corps, and dispensary tent, and a space capable of holding a double platform in rear is kept open for clotheslines, etc.

"Between each two sections is placed a small house 9 by 10 feet completely divided in the center line, to which the fence comes. On each side of this is a toilet, washbowl, shower, and washboard.

"Owing to somewhat more space being available in sections 3 and 4, these are able to accommodate a larger number of tents (see plan attached).

Section 1 holds.....	54;	may be expanded to.....	88
Section 2 holds.....	66;	may be expanded to.....	88
Section 3 holds.....	84;	may be expanded to.....	112
Section 4 holds.....	114;	may be expanded to.....	152
	318		440

"The food is prepared in station galley and transported to camp, a distance of 150 yards, by three push carts. Messing is, at this season, done in the open street between tents.

"Ordinary cases sleep in camp cots, using their own bedding. More severe bed cases occupy regular hospital beds with mattress, pillows, and linen, of which a sufficient number is always held available."

The first unit of a Deaconess hospital being erected in Butte, Mont., is expected to be ready for patients in March. Miss Lydia Keller, of Northfield, Minn., a former secretary of the American Hospital Association, is to be superintendent of the new institution, which will open with accommodations for 40 patients.

The Army Nurse Corps

The following memoranda have been received from the Surgeon General of the Army:

"As it is believed that during the coming year, should the war continue, thousands of nurses will be needed in the Army Nurse Corps for service in the military hospitals at home and abroad, it is the desire of the surgeon general to direct the attention of the nurses of the country to this need so that they may make application for service and be available when the need has actually arisen.

"In 1909 the enrolled nurses of the American Red Cross were authorized to constitute the reserve of the Army Nurse Corps for service in time of war or other emergency. In order, however to meet the great and increasing demand for nurses, it has also been decided recently to permit those nurses who desire to enter the regular corps for the period of the war emergency only to do so, thereby waiving the usual period of appointment of three years. Application for appointment in the Army Nurse Corps should be made to the superintendent, Army Nurse Corps, Mills Building, Washington, D. C. and for enrollment with the American Red Cross to the director, Red Cross Nursing Service, Washington, D. C. The pay is $50 a month for the first period of three years, for service in the United States and $60 abroad. The enrolled nurses of the American Red Cross, when called into active service are subject to all the established rules and regulations for the government of the nurse corps and receive the pay and allowance of nurses on the regular list. These allowances include quarters, subsistence, and traveling expenses while traveling under orders. A leave of absence with pay for thirty days is allowed for each year of service which may accumulate for four years if the nurse desires.

"The equipment of nurses ordered abroad is furnished to all members of the Army or Navy Nurse Corps by the American Red Cross upon arrival at the mobilization station in New York prior to sailing.

"Passports are not required at this time for nurses in the uniform of the Army Nurse Corps, a certificate of identification being issued to each nurse by the War Department prior to sailing.

"Members of the Army Nurse Corps also come under the provision of the war and compensation act recently passed by Congress. In case of total disability a nurse is given $30 a month for the period of the disability, or in case of death her widowed mother would receive $20 a month for a period not exceeding 240 months. This allowance, however, may be augmented by the nurse in accordance with the amount of insurance she desires to take out. A nurse at the age of 30 would have to pay 69 cents per month for each thousand dollars worth of insurance, which amount, however, is slightly increased each year according to age. This would provide an income of $5.75 per month for each thousand dollars to herself in case of total disability, or to certain relatives who come within the permitted class of beneficiaries. Insurance is payable only to a husband, child, grandchild, parent, brother, or sister of the injured, or to herself. The insurance shall be payable in 240 monthly installments, except

that in a case of total permanent disability, monthly installments will be continued throughout the duration of the disability. This insurance may be carried for the period of the war and for five years thereafter, unless sooner converted. The insurance shall be term insurance for successive terms of one year each and must be in multiples of $500 and not less than $1,000 or more than $10,000. It is granted without medical examination and must be applied for within 120 days after admission to the service and before discharge or resignation from the service. Full information in regard to this question may be obtained by writing to the director, Bureau of War Risk Insurance, Division of Military and Naval Insurance, Treasury Department, Washington, D. C.

"Owing to the confusion which seems to have resulted from the publication of erroneous information in regard to the qualifications for nurses in the military establishment, the surgeon general desires to emphasize the fact that under the law only graduate nurses are eligible for service in the Army Nurse Corps. It is useless, therefore, for practical or domestic nurses to make application for this service as they cannot be accepted.

"Married women are not accepted for service at this time, though those who desire to make application may have their papers placed on file for future reference should need arise.

"Graduate nurses who desire to enter the service should make application to the superintendent, Army Nurse Corps, Washington, D. C., or to the director, Red Cross Nursing Service, Washington, D. C."

A Red Cross Hospital in the Thousand Islands

Sixty wounded Canadian soldiers are entertained in the beautiful summer home of an American woman, Mrs. Ira A. Kip, on Leek Island, in the St. Lawrence River. This is one of the Thousand Islands, and the delightful situation is indicated to some extent in the accompanying illustration. The house has been extensively remodeled

Leek Island Hospital, St. Lawrence River. Courtesy of the Canadian Military Hospitals Commission and of *Construction*.

and equipped as a hospital. An operating room with all conveniences has been installed. The plan is to remove the first patients, when the stage of their convalescence warrants the change, to tents and other buildings, thereby making room for others. The boathouse, of similar construction to the building shown, accommodates about twenty men.

When one door closes, another always opens, but we usually look so long, so intently, and so sorrowfully upon the closed door that we do not see the one that has opened. —Jean Paul Richter.

WAR TIME INSTITUTION ECONOMIES

WAR SAVINGS STAMPS

Encouragement of Thrift in Employee as a Duty of Hospitals—What War Savings Stamps Are

In order that their employees may conveniently buy them, many large business organizations carry a supply of war savings stamps and thrift stamps. This is in keeping with the purpose of the government to have them on sale in more places in the United States than any other single article. Hospitals should follow the lead of these business houses and encourage all employees to purchase war savings stamps, for by so doing they will be helping the government to get the thirty million "stockholders in the United States" which it is believed the issuing of these stamps will secure. By encouraging the purchase of war savings stamps we are also encouraging thrift, and, in urging thrift, hospitals will be doing something in their own interest, for the thrifty employee is the most efficient.

The story of the war savings stamps and certificates is simple and quickly told. The war savings certificate is a promise of the government. Its value is measured by the stamps that are attached to it. These stamps mature January 1, 1923. When you purchase one of these stamps it is attached to a certificate which is marked off in spaces for twenty stamps. The purchaser's name is written on the certificate, and when the first stamp is attached, his rights are as complete as they will be at any time, should he fill the certificate or add any number of stamps less than twenty. At the end of five years the government will pay $5 for every stamp. This amounts to 4 percent compound interest, compounded quarterly. Upon receipt of ten days' notice any postoffice will refund the money paid for the certificate, plus 1 percent a month increase, which amounts to 3 percent simple interest. These certificates may be registered without cost at any postoffice. Registering them insures the purchaser against loss, theft, or even the irretrievable destruction of the certificate.

Twenty-five cent thrift stamps are issued for those who cannot afford to buy a war savings certificate. The thrift stamp is attached to a card having sixteen spaces, which when filled will cost $4. A full card may be exchanged for a war savings stamp by paying 12 cents or 13 cents, or whatever the price may be at the time the exchange is made.

These war savings stamps are going to raise two billion dollars for the prosecution of the war. They are going to help the government in the gigantic task of equipping and maintaining the army of one million eight hundred thousand men we now have in training camps and in France; teach the lesson of thrift so sorely needed by the people of the United States; and above all—their most important function—bring home to every man and woman, boy and girl, a realization of their personal obli-

gations to their country in war time. They are going to help win this war.

We doubt that the man lives who knows what this new unit, which the government is dealing with, the billion dollar unit, really is. Some hospital executives know what a million dollars is, because they know what kind of an institution a million dollars represents. But a billion dollars staggers the imagination. A Washington mathematician has figured that if at every minute since the birth of Christ a dollar had been set aside we would on the 29th day of April at twenty minutes before noon have completed one billion dollars. And think of it! Congress has appropriated nineteen billion dollars since we declared war on Germany. It amounts to three times all the money there is in the United States.

Every dollar hoarded, every dollar spent uselessly or upon luxuries we can do without, and every dollar spent which employs labor needed by the government or helps to occupy factory space which could be used for the manufacture of munitions or army supplies, is a slacker dollar. Our government needs our help. We are part of the government, and should lend it our dollars to give it the credit and things needed to carry the war through to a successful termination.

The number of doctors and nurses formerly connected with hospitals, now in service in the army and navy, is eminent testimony of the patriotism of hospital people and a guarantee of their interest and cooperation in any patriotic enterprise.

Remember the war savings stamps and keep them moving.

* * * *

War-Time Economies at Flower Hospital

BY OLIVER H. BARTINE, Superintendent, Flower Hospital, New York.

The increased operating expenses of Flower Hospital for the fiscal year ending September 30, 1917, amounted to $33,952.62; the revenue increase amounted to $38,560.61. In other words, the revenue increased more than the expenditures to the extent of $4,607.99.

	1916	1917
Revenue	$126,742.10	$165,302.71
Expenditure	145,384.70	179,337.32
Deficit	$ 18,642.60	$ 14,034.61

The capital account, however, does not make such a favorable showing.

The following are some of the suggestions and measures that we have adopted:

WAR TIME SERVICE

HELP YOUR COUNTRY, HELP US,

THEREBY HELPING YOURSELF.

Careful observation of the garbage pails, with all that it implies, has been instituted.

The usual comparison of quantities of drugs, surgical supplies, food, fuel, and all other supplies, as well as the census as compared with recent months, and the same months of recent years, has been made, then reduction where found to be feasible and possible.

We have tried to serve smaller portions of food. Why serve large quantities of food when the service of smaller portions would be more satisfactory from every standpoint? Having in mind other items both large and small, I would like to know what becomes of the large portion of butter that is served each person, and the two, three, four, and five heaping teaspoonfuls of sugar that are dropped into the ordinary cup of coffee and a large portion of which is still in the cup after drinking the coffee. If a commercial enterprise used such extravagance it would spell bankruptcy. A competent nurse will study and know her patients' needs and tastes and will therefore not fill the plates or dishes with food that will simply be set aside. For instance, why serve to the particular patient a large supply of meat, potatoes, tea, bread, etc., with the previous knowledge that certain food is not eaten? This will also apply to the waitresses in the various dining rooms. If a patient or employee is desirous of a large portion of a particular food they will not hesitate to ask for it. It is very laudable to anticipate their needs and wishes in the right direction but to be wasteful at the present time is criminal and unpardonable.

The use of minimum quantities of supplies in continuous dressings of surgical cases is insisted on; also the re-use of many surgical dressings; for instance, rubber tissue, gauze, bandages, etc. Why use paper bags for soiled surgical dressings while a newspaper can be made into a receptacle for that purpose? Dressings are all prepared in minimum sizes, supplying a minimum quantity of supplies to each department. Many surgical appliances and instruments cannot be procured and many can be purchased only at prohibitive prices. Great care should be exercised that none go astray, also great care should be taken over their physical protection. Private patients should be induced to adhere to the regular menus as far as possible. Inexpensive, appetizing diets are supplied in place of more extravagant ones; also meatless, porkless, and wheatless days, etc., are observed. All special diets are supervised by the attending doctor. It is made as difficult as possible for employees to carry supplies away from the hospital, especially those who live at home. Substitution for economy is practiced in the use of drugs, surgical and other supplies also distribution in minimum quantities. Many stock drugs are now procured from the pharmacy in smaller quantities than heretofore and more strict supervision over its distribution is observed by the nurses in charge of the various departments. The locking of medical and supply closets, as well as refrigerators, etc., on the wards, private floors, and operating rooms, etc., is strictly adhered to, and the key is kept in charge of the head nurse, whose duty it is to dispense the supplies and see that the unused portions or appliances are returned. The order for many drugs is to be signed by the attending doctor.

Nurses are requested to observe that all utensils and other service articles are returned to their proper place of storage after using. This will simplify the work and anxiety of the head nurse or the head of the department in keeping control of the stock of working supplies or equipment. A distinct leaning toward extravagance is the slipshod method frequently seen in institutions among porters and cleaners. This could be rectified by a proper supervision of their work and supplies. Conservation of soap is most essential. Cleaners are requested not to use large quantities or to permit used soap to remain unnecessarily in the water. Nurses are asked to assist us in relieving the laundry by decreasing the number of pieces of linen sent to the laundry from each department, including personal linen. Soiled linen should be thoroughly soaked and temporarily washed before sending it to the laundry. Provision should be made to wash and sterilize all used gauze, muslin, etc.

At the same time we attempt to make our private patients' service attractive to both patent and visiting doctors, thereby enabling us to keep the rooms full at all times, including the summer months. Comparisons are being made of the quality of the work and operating costs

of each department, including wards and private floors. Department heads are asked to keep their departments up to a high state of efficiency. Every person connected with this institution is made to understand distinctly that the present unusual war conditions cause many rapid changes and it is essential to keep up with the times. Those not keeping up with the progress of the day will not be considered essential to the welfare of the hospital or to any other hospital or establishment to which they may apply for preferment. By assisting us in meeting our new requirements, employees are helping themselves. This thought is commended to their consideration.

The establishment of cafeteria service for the dining rooms will unquestionably go far toward solving the waste in the food problem as well as its inefficient and extravagant service. Observing that the maximum amount of revenue is collected from our various departments, commensurate with the service given, at the same time not overlooking the fact that we are a charitable institution, and our object the care of the ill and afflicted. A competent steward is most important; the employment of such a man should not be passed upon lightly. An employee has been given the duty of observing the economical use of food and other supplies.

Construction, boiler room, and maintenance of buildings, economies, etc., should be given the most careful consideration.

All are admonished to remember the gospel of the clean plate. From time to time new conditions will arise and a shortage of many commodities is likely to exist. We should do our utmost in meeting the exigencies as they arise.

* * * *

U. S. Food Administration Recommends Harvesting Ice to Save Ammonia

One of the best opportunities of conserving ammonia is made available by the substitution of natural ice for the manufactured product. This substitution is being provided for throughout the country, and it is expected that a very large percentage of the ice used next summer will be ice that the Food Administration is encouraging people to harvest now from rivers and ponds wherever possible.

A serious obstruction in the way of this splendid opportunity of providing an urgently needed chemical for our army and navy is caused by the fact that several large cities have restrictions against the use of natural ice.

It is obvious that municipalities should not permit the use of polluted ice. There is much misapprehension and prejudice concerning the use of natural ice that careful consideration and study will dispel. To any boards of health, etc., interested in this subject the Food Administration will be glad to send any of the following booklets, published by Natural Ice Association of America, 18 East Forty-first street, New York city:

Status of Scientific Opinion of the Purity of Natural Ice.
The Effect of Handling and Storage on the Safety and Purity of Ice.
Non-Relation of Natural Ice to Typhoid Fever and Dysentery.
The Purity of Natural Ice.
The Bacteriology of Ice.
The Sanitary-Chemical and Bacteriological Examination of Natural Ice.
Melted Natural Ice Compared with Bottled Spring Water for Drinking.
The Study of the Purity of Natural Ice from Polluted Water.
Melted Natural Ice vs. Bottled Spring or Distilled Water for Drinking.
Bacteria in Natural Ice.
Natural Ice and the Public Health.
Factors of Sanitary Safety in a Natural Ice Supply.
Water from Melted Natural Ice for Domestic Use.

DISPENSARY AND OUT-PATIENT WORK

Conducted by MICHAEL M. DAVIS, Jr.,
Director of the Boston Dispensary.

Please address items of news and inquiries regarding Dispensary and Out-Patient Work to the editor of this department, 25 Bennett street, Boston, Mass.

The Problems and Place of the Dispensary and Out-Patient Department in War-Time*

REPORT OF THE COMMITTEE ON DISPENSARY WORK AMERICAN HOSPITAL ASSOCIATION

This year is different from all other years within our memory. Amid the innumerable effects of the world war, it is laying its heavy hand upon medical service. The 2,500 dispensaries and out-patient departments in the United States are treating between 3,000,000 and 4,000,000 persons a year. The war faces them with new difficulties and new opportunities. It has been our part to make some slight study of these.

High prices, particularly of food, are pinching the poor. These are partly counterbalanced by more continuous employment, and in some industries by higher wages; but, as the statistics of the Federal government have shown, the rise in prices has on the average outrun the rise in income. Families which a few years ago had as a rule a small margin over necessities, so that they could pay for a little doctoring in cases of acute or serious illnesses, now no longer have that margin. Those families of a higher level, well above the poverty line, but without any substantial savings or property, find it much more difficult to meet the expense of any prolonged or unusual illness, or to provide for specialists' services—the oculist, laryngologist, dentist, orthopedist, surgeon. At the same time, a dire shortage in the medical profession is appearing. If the most recent published estimates are correct, one-fifth of the total number of registered physicians in the United States, or nearly 30 percent of the 90,000 physicians of the active military ages, will be taken into the government service and out of private practice. A certain proportion of the population will be taken with them, it is true, but there will remain the old people, the women of child-bearing age, and the children—the groups among whom sickness is most frequent. These groups must be cared for with a diminished power to meet the expenses of medical treatment and a diminished number of physicians to provide the treatment needed.

We have received from a number of superintendents interesting suggestions for the work of the dispensaries during the war. "What is your dispensary doing, or planning to do, to meet war needs?" We shall quote two answers to this question, out of many received. The first one is from the superintendent of a hospital in a community of 100,000 persons:

"In answer to your question, I would say that we expect

*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12-14, 1917. This committee consists of the following members: Michael M. Davis, Jr., Boston Dispensary, chairman; John E. Ransom, Rush Medical College Dispensary, Chicago; Ralph B. Seem, Johns Hopkins Hospital, Baltimore.

to organize our dispensary work along much broader lines: (*a*) for charity patients; (*b*) for paying patients.

"Members of our staff are awakened to the new conditions, and those who are not available for war service or cannot pass the examinations are in some instances preparing themselves for specialized work—a thing which we have had very little of in this city up to the present time. Each physician has been a general practitioner.

"To summarize: the war is affecting us and our dispensary work, first, by showing an increased need; second, by causing a shortage of medical men; third, by making the necessary special efforts to secure funds; fourth, by impressing upon the medical men themselves the need of greater cooperation and the division of labor."

The second answer to the same question which we shall quote comes from the superintendent of a well-known hospital in one of the largest cities of this country.

"There certainly will be need, at least in certain districts, for organized efforts to care for the medical needs of the people. If such a need should develop in this city, I should consider the enlargement of pay clinics to meet this need. It is not likely, during the war, that the people will be unable to pay the small fee required by pay clinics. In this way, physicians could care for the maximum number with the least effort; and because organized as a pay clinic, the finances would not be difficult.

"We know that the organization of pay clinics in regular dispensaries is a very simple matter. The organization of pay clinics in hospitals is a simple matter also. Many small hospitals run practically this now, especially for industrial disease cases.

"A comparatively easy way to extend medical service to the public is at hand. This way is the extension of the pay clinic idea. This would operate as an extension, by making the work of each medical man more efficient by organization and concentration of the work. There would remain available in the country many men unfit for military service who would naturally drift into the pay clinic and the necessary home visits, both being remunerative. The financial condition of the working people during the war makes the operation of pay clinics needed, and the opposition thereto from physicians will disappear. This organization will extend greatly the efficiency of medical service quite sufficiently to meet any needs which may develop."

The committee has recently communicated with a number of representative dispensaries and out-patient departments in about twenty of the larger cities of the United States. The majority believe that there will be substantial increase in the need for dispensary service in their community. Some have already observed an increase, which they attribute to the war and the conditions caused thereby. A few are doubtful as to the future, and only three believe that there will be no increase of need. Unanimous testimony comes as to the shortage in medical staff already begun or definitely anticipated. The large institutions report that the proportion of dispensary staff which has gone, or is expected to be taken, is usually over 12.5 percent, and in some instances is higher than 25 percent. If the war continues long, the loss may be much more serious.

Shortage of medical men in the hospitals and dispensaries and in the communities outside is only just beginning. The next twelve months will, in all probability, face us with real war conditions. By the time the association meets next year, we shall know many of these conditions and not merely anticipate them. We shall feel the burden less if we do anticipate them today and plan to meet them.

The primary duty of the dispensary and out-patient department is to give medical care in general and special lines to the masses of the population, not merely to the destitute. This responsibility will not be diminished, but will be greater during war-time. Especial effort must be made to maintain and, in some respects, to increase dispensary and out-patient service during this period. It is encouraging to note that not a single one of the hospital or dispensary superintendents who replied to our letters thought that there would be any substantial diminution of the funds available for their out-patient departments. This is one of the questions which we had asked.

How shall the shortage of medical staff be met? Older men, not subject to draft, must be sought; existing staffs must do more work. Several dispensaries have indicated that they are making a special effort to secure women physicians in some departments to take the place of men who are called away. Many hospitals are asking men who have served as interns and who have located in practice near the institution to come back and give service in the out-patient department. But these efforts will take us only a little way. More far-reaching means must be adopted.

Even in those cities where dispensaries have farthest developed, as in New York, Chicago, Boston, and Philadelphia, only a comparatively small proportion of the medical profession are on the staff of dispensaries and out-patient departments, and have the clinical advantages afforded by such connection. In New York and Boston, for example, only between 25 percent and 40 percent of the whole profession are on dispensary staffs. It is much to be desired that members of the medical profession who are in general practice and who are largely cut off from the diagnostic equipment and the opportunity for joint study of cases which the well-organized dispensary affords, should have such advantages. The war now gives an opportunity, unique in a generation, for the medical institutions, and particularly for the dispensaries, to come into more extensive and democratic relations with the rank and file of the profession. We must recognize the fact that in every community there are a certain number of physicians who have graduated from unsatisfactory medical schools or whose training in other respects has not been adequate. But these are a small minority. There are a large number of general practitioners who would give good service, who would themselves benefit, and whose patients would benefit, by association with a well-organized dispensary clinic. To democratize the facilities of the dispensary through some form of acting appointment during the war for physicians of this type will be a gain all around.

The dispensary or out-patient department, in other words, needs to call into its service many practitioners who have ordinarily no institutional connection. Let the invitation be issued, and the response will be favorable; for the spirit of service, ordinarily strong in the medical profession, is emphasized during this period of national need. In some instances a form letter of invitation should be sent to a list of local physicians individually; under other local conditions it may be better to issue the call through the local medical society. Each invitation should give the doctor opportunity to indicate the specialties in which he would prefer to work; but particular effort should be made to get men for the general medical, pediatric, and surgical clinics, where the shortage of doctors is likely to be most felt.

The dispensary will then have to organize and utilize the new men in the right way. If each clinical department retains a nucleus of the regular men, and preferably its chief, the problem of organizing the new men will be simple.

One great point of the present situation is that the shortage of physicians, if it becomes as serious as we anticipate, will remove much of the objection to dispensaries that has appeared in some cities. Instead of opposing the out-patient clinics, many practitioners will be willing to take part in their work as a means of giving medical care to the many to whom they would otherwise have to give it anyway, at a greater expenditure of time.

If we are to realize the benefits of dispensary work, meeting the unusual need for medical care of the population during war period and supplementing the shortage of medical staff in the community, it is essential that the standards of dispensary work be upheld. We must not return to the habits of former years—the hasty examinations, the indiscriminate giving of prescriptions as a means of sending the patient away with a feeling that something has been done for him. Standards of dispensary service have been rising; they must continue to rise, because during the war-time dispensaries must play a more serious part than merely giving charity to the sick poor or opportunity for instruction to medical students. Dispensaries must play a much larger part in caring for the health of the general population, irrespective of financial condition or relationship to medical education.

THE TEACHING DISPENSARY

The problems of the teaching dispensary are of particular importance. Besides the adequate care of the sick it has an added responsibility in the instruction of medical students and the advancement of medical knowledge. It is the main source of material for the investigation of many chronic diseases before organic changes have taken place, and also affords opportunities for study of minor ailments. It should be the center of the dissemination of knowledge for the prevention of disease, of prophylaxsis, and of the manner of living.

In planning to meet conditions every effort should be made to maintain the accepted standards of dispensary work and guard against any hurtful interference. The work will have to be done by a smaller number of men. Those who remain at home must carry burdens up to the limit of their strength. Therefore, we must consider a plan of organization which will provide for the conservation of the time and energies of the staff and supplement their work by others. In so far as it is possible to do so, the members of the staff should be relieved of administrative duties and routine work. Members of the house staff should actively participate in dispensary work. One of the senior house men whose duties in the hospital are of such a nature that he will be familiar at all times with the number of patients on the wards and the medical problems which they present should be in the clinic each day and have charge of all administrative details. All patients recommended for admission into the hospital should be handled by him.

Every effort should be made to have a well-trained physician in charge of the clinical laboratory in connection with the dispensary. There is possibly not any one factor which will mean more to the staff and to the service rendered to patients than a well-equipped laboratory with a competent physician in charge who will direct the students in their examination of specimens and do the work himself when called upon to do so.

In many teaching dispensaries it is customary for students to work in the general clinics of the dispensary during their third year, when they require the maximum amount of supervision. By rearrangement of teaching schedules so that the students will be in the general clinics during their fourth year, at the same time that they are having their ward work, they can be of great assistance in carrying on the work of the dispensary. They will also have the opportunity to follow in the wards patients admitted from the dispensary, and likewise to follow in the dispensary patients discharged from the wards, who return to the dispensary for observation and treatment.

The services of clerks or stenographers in large clinics would be of assistance to the doctors. In addition to taking special notes and doing the clerical work of the department they can look after details of clinical management. The installation of telephones in the clinics so that physicians can keep in close touch with their offices, and interns with the patients in their wards, is a time-saver and a great convenience to the staff.

In almost every community there are a considerable number of intelligent young women who are eager to volunteer their services to hospitals and dispensaries in any capacity in which they can be of greatest usefulness. When these volunteers are properly trained they can be of great assistance in carrying on the work of the dispensary. The following suggestions are some of the ways in which they can be useful: to assume responsibility for histories and patients until they arrive in the hands of the doctors; to distribute and collect histories; to separate different classes of patients who are being treated in the same department—as the old from the new patients—and get together those who receive the same kind of treatment—as cases for massage, baking, etc.; to see that patients understand what to do and where to go when they are to have an x-ray picture taken or a Wassermann test made; to take patients to other departments for consultation and to escort those who are recommended for admission to the admitting office of the hospital; to operate the follow-up system and to send cards to patients, or in some instances to visit them in their homes when they do not return for treatment and when the doctors feel that it is important for the patients' welfare that they do so. Some of them can be used to explain to patients the doctor's orders, and assist in holding classes of instruction for groups of patients, as the tuberculous, the cardiacs, the nephritics, the diabetics, etc. These volunteers should be trained and work under the direction of the social service department.

CHARITABLE SOCIETIES AND THE DISPENSARY

Charitable societies are facing unusual problems during the war. The charity organization societies of all our large cities have many families in which illness or incapacity is the chief causative factor in their dependency. The rehabilitation of these families must depend in large part upon the restoration to health of the incapacitated member. Before a plan can be made for such families, the charity organization society must know the physical condition of the individual in question and the prognosis of his case. This is a service which a good dispensary or out-patient department can and should render. We are all called upon for such service frequently. Those who ask for it often complain that we do not render it efficiently or cheerfully or promptly. The dispensary can render its best assistance to the Red Cross by assuming responsibility for the medical care of persons referred to it by the civilian relief committee.

Last year a questionnaire was sent out to charity organization societies of all the cities in the United States of 50,000 or more population, asking particularly concerning the efficiency of the dispensaries and out-patient departments from the point of view of these societies. The answers naturally set forth both good and bad qualities of these institutions. The chief complaints were that many of the out-patient departments did not follow up patients who should be kept under treatment, leaving the responsibility for the continuance of treatment with the patient or with some outside agency who might be interested in him. This, of course, means a certain degree of inefficiency. Others complained, as mentioned above, that they had

great difficulty in securing adequate information concerning patients in whom they are interested. Practically all of these organizations felt that the establishment of efficient social service departments has greatly facilitated cooperation and has increased the efficiency of the out-patient departments generally.

Requests for suggestions as to how dispensaries might become more efficient brought out points that may be very helpful. Here are some of them:

"That workers from medical institutions and those from relief agencies meet at certain definite periods to discuss and talk over plans for those cases in which both are interested."

"We would like to see the dispensaries work out some plan for following up medical treatment in the home. If a patient who has been receiving dispensary treatment becomes too ill to attend the dispensary and is not ill enough to go to a hospital, we are obliged to send the county doctor into the home. He has not had the benefit of the record at the dispensary and has no previous experience with the patient, so that his treatment must necessarily be carried on independently of the medical history and plan for the patient made by the dispensary physician. Much suffering could undoubtedly be alleviated if dispensary doctors would work out some plan for continuing treatment in the home under their supervision."

"General night clinics for workingmen and women. In seeking cheap treatment they are often forced to go to quacks or neighborhood doctors, who are often unskilled and sometimes unscrupulous."

"Interpreters for foreign-speaking patients."

"Patients are frequently not given instructions which they understand about taking medicine. This is, of course, due in many instances to lack of interpreters and in others to the fact that the dispensaries are overcrowded and the doctors consequently in a hurry."

"That in cities where there are a large enough number of them, the medical workers and dispensary officials organize into a group that may be helpful in standardizing medical service for the poor and promoting a fuller realization of its social significance."

Dispensaries can greatly increase their service to their communities through cooperation with other philanthropic and social agencies. Relief organizations, corrective agencies, and out-patient institutions are often working on different phases of the same problem. Each can be more efficient if it knows what the others are doing. Working in harmony, they may solve the problem; working otherwise, they may only complicate it.

To make this possible, every dispensary must have two things:

1. A definite policy of cooperating with outside charitable societies.

2. A well-organized social service department as an essential in making such a policy effective.

WORK OF THE COMMITTEE

This committee has considered carefully the work which should be undertaken during the coming year. Certain problems are of especial medical importance at this time within the dispensary field.

1. The Handicapped: The war will doubtless send back thousands of men who are more or less disabled, but who by medical care or special training can be fitted to support themselves either in whole or in part. A national commission is studying this problem. But when it comes to working out the details of the medical care required for the handicapped in each community, local provision must be made, and the dispensary, through special clinics, must come into this scheme. A study of this from the standpoint of the American Hospital Association, with the aim of planning how out-patient departments in each community can assist in the care of the handicapped, might be quite timely.

2. The examination of soldiers or prospective soldiers has made it familiar to all how great is the need of *dental care*. This has been well known to the experts, but is now popular knowledge. The demand for dental services among the population as a whole will be increased, and dental services will be more intelligently used than formerly. There should be a special study of the standards and methods of dental clinics and of means of providing them in connection with existing hospitals and out-patient departments, rather than through new buildings.

Among many suggestions for future work which have come to the committee from superintendents of various hospitals, the three previously mentioned—pay clinics, care of the handicapped, and dental clinics—have been referred to most often. The subject of dispensary abuse comes up this year, as always, though there is some reason to believe that this agitation will be diminished by the war. In so far as this subject raises real present issues it should be dealt with by this committee of the association in the ensuing year.

3. In recent years dispensaries have developed rapidly not only in large cities, but also in cities of moderate size, and of late have been frequently established in connection with industrial plants. The needs for dispensary work of communities of different sizes, and the kinds of dispensaries that ought to be maintained require special study. One superintendent suggests that this committee undertake next year the following:

"Make a study of the needs of various grades of cities, of those of 25,000, 50,000, 100,000 inhabitants, etc., of an industrial community compared with a university community, and many other classifications. The committee may aid in outlining a definite organization for each class. Show by printed reports the possibility not only of free dispensaries, but also of the pay clinic, and be ready to assist in the organization of either."

From letters and inquiries which have come to us, the committee is led to believe that there is unusual interest in dispensary work at this time, and that there is a demand that the standards and the special information which have been worked out in previous years by the committee on out-patient work of this association, and by other bodies concerned with dispensaries should be placed more widely in the hands of superintendents and other officials of hospitals and out-patient departments. We believe this demand to be fairly widespread. In our opinion much can be accomplished to improve dispensary work by more general dissemination of concrete information as to standards and methods of out-patient work in general, and in particular with reference to the needs and possibilities during war-time. The committee believes that, during the coming year, opportunity should be afforded for this committee to circulate among the dispensaries of the country the information now at hand and collect and distribute new information of especial timeliness.

Under the by-laws of the association the committee on out-patient work is empowered to take such action, but some funds will be necessary. In continuing the committee under the by-laws for the coming year, a larger appropriation should be provided. The sum of $500 is needed for the work, about $200 of which would cover the expenses of meetings; the remainder would be required for clerical work, printing, and postage. The committee realizes that the finances of the association may not permit of such a fund being appropriated and is therefore asking that $200 be appropriated by the association. The remaining sum must be raised in some other way.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

The Henrietta Bird Memorial Hospital, in Paoning. China Med. Jour., Shanghai, 1917, XXXI, No. 5.

The rapid progress of Western medicine in China is to a great measure due to the numerous small mission hospitals which have been established throughout the country. The Henrietta Bird Hospital was opened in 1907 on a very modest scale, but its work soon overcame the prejudices of the people and gained their appreciation and good will. It has steadily grown during the last few years, and the patronage has increased so much that a number of new buildings could be added. It is the aim of the hospital administration that all helpers, attendants and servants shall be Christians whose lives will commend the work of the mission.

Heliotherapy. M. Maurizi. Medicina nuova, Roma, 1917, VIII, No. 25.

After giving a brief historical review of the development of heliatherapy, the author states that Italy, with its mild climate, its sunny hillsides, its sea-bathed shores, and its ever-serene sky, is the ideal country for heliotherapy. Yet this efficient method of cure has not been made use of as it deserves. Few stations of heliotherapy have so far been established, and few hospitals are provided with the means of carrying it out. The new municipal hospital of the city of Ancona, built on the pavilion plan, has not overlooked this important method of cure. It has erected alongside of each pavilion a solarium where the patients who are in need of it can avail themselves of the curative properties of the sun's rays.

Organization of Military Hospitals for Venereal Patients. Pautrier. Ann. de dermat. et de syph., Paris, 1917, VI, No. 5.

Experience has shown that the treatment of venereal diseases in general military hospitals is very inefficient. Frequently, the physicians have not the necessary special knowledge or are not provided with the means for carrying out certain treatments. As patients are often transferred from one hospital to the other, a systematic treatment is almost impossible. The establishment of special hospitals for venereal diseases is therefore a necessity. These hospitals should be located in the chief city of each military region, where the hospitals for the other specialties are established. The services for nervous diseases, of ophthalmology, ortorhinolaryngology, etc., have important relations to syphilitic infection, and it is therefore necessary that all special services be grouped close together in order to assist each other in the diagnosis and treatment of disease. Such a hospital should also conduct a consultation service where all soldiers of the locality and all laborers working in military establishment may obtain advice and treatment. A venereal hospital has three functions: its work is at once diagnostic, therapeutic, and prophylactic. For diagnosis, men thoroughly versed in the use of the ultramicroscope and in applying the Wassermann reaction are necessary. In the treatment, the remedies which restore the patient in the shortest possible time, namely, neosalvarsan, novarsenobenzol, or galyl, should be used. The prophylactic work consists in giving the patients hygienic advice and carrying on an educational campaign among the troops by means of lectures.

Care of Patients with Nervous and Mental Diseases in Amsterdam. W. Vos. Ziekenhuis, Amsterdam, 1917, VIII, No. 10.

Though during the last ten years several new institutions for nervous and mental diseases have been established in the Netherlands, the present hospital capacity is not sufficient for the care of all patients. This is due not only to the growth of population, but also to the increase of nervous and mental diseases. From 2.75 per thousand inhabitants in 1909, the nervous and mental patients have increased to 3.32 per thousand in 1917. For these reasons a commission appointed by the city government of Amsterdam to examine this question recommends the establishment of a new hospital for the insane in conjunction with the Province of North Holland. The commission also recommends the erection of a municipal sanatorium for nervous diseases.

Means of Combating Tuberculosis. Riv. di ig. e san. pubb., Torino, 1917, XXVIII, No. 18.

Dispensaries are one of the chief means and the mainstay in the modern struggle with tuberculosis, around which all the other institutions of assistance and prevention are grouped. While they are a means of curing tuberculosis, they are also eminently preventive and educative institutions, extending their work to the families of the patients, giving hygienic advice, recommending prophylactic measures, and educating and elevating the hygienic conscience of the people. While in large cities the dispensaries act as diagnostic agents, such diagnostic centers should also be established in smaller places where the work could be performed by hospitals or by bacteriological laboratories. Greater attention should be paid to the institutions established for the prevention of tuberculosis among children. The number of seaside hospitals for children, a preeminently Italian institution, should be increased. The same holds good as to mountain sanitoriums, country colonies, open-air schools, etc.

The Orientation of Hospital Buildings. E. Bertarlli. Riv. di ig. e di san. pubb., Parma, 1917, XXVIII, No. 16.

The writers on hospital construction differ very much on the question in what direction the main front of a hospital should face. Some authors maintain that the main front should extend from north to south, others from west to east, while many prefer an intermediate direction. Ronzani, who says that most Belgian hospitals are facing south, believes that in such hospitals the rooms are cooler in summer than in winter on account of the greater inclination of the sun's rays, while in an east-and-west exposure the winter sun penetrates the rooms only during a short space of time, and then only during the hours in which the sun's rays in their course through the atmosphere have lost a large portion of their caloric power. In England almost all hospitals face south, like

the King's Hospital in London, the Royal Infirmary in Manchester, the City Hospital of Liverpool, and the Hill Hospital in Glasgow. In Germany a few hospitals, like the New City Hospital in Carlsruhe, face east, and some others, like the St. George's Hospital in Hamburg, southeast. The author concludes that no fixed rule can be established in this question, for in each individual case, the prevailing direction of the winds, the local thermic conditions, reasons of convenience, etc., must be taken into consideration.

Heliotherapy in Military Hospitals. E. Vidal. Caducée, Paris, 1917-18, X, No. 2.

Heliotherapy combined with the Dakin-Carrel treatment marks a great advancement in the treatment of wounds. Heliotheraphy is no haphazard treatment. Certain rules must be followed to be successful. The sun rays must strike the wound directly without the interposition of any kind of glass. The treatment must be progressive with regular intervals of rest. On the first day the wound is exposed for five minutes; on the second day, twice for five minutes with an interval of five minutes' rest between. Thus a daily insolation of three or four hours is gradually reached, with fractional exposures of five minutes separated by five-minute intervals of rest in the shade. The results of this method are prodigious. In a few minutes, under the eyes of the attendants, the wounds undergo a change. They first become red, secrete an abundant clear liquid, then become dry and glazed. The slightest touch causes abundant bleeding. The bony surfaces become black as if carbonized. In a few weeks, wounds are healed up which, by the usual methods, would require many months of treatment.

A Mobile Surgical Hospital. Doisy and Marcille. Bull. de l'Acad. de méd., Paris, 1917, LXXVIII, No. 35.

All wounded who cannot be transported must be operated on at the front. But surgical formations must be mobile so as to serve in mobile as well as in stationary war. A mobile surgical hospital consists of an operative and technical and a hospital section. All the apparatus of the former, a laboratory for sterilization, a heater for the operating room, an x-ray machine, instruments, etc., are carried on four two-wheeled or four-wheeled carriages which are pulled by automobiles. The hospital section is divided into two groups. Each group consists of three or four rigid folding tents, each containing about fifty beds. These tents have double walls and are composed of segments which fold like the partitions of a pocketbook. A tent with fifty beds weighs 2,500 kg., while the old wooden barracks weighed 30,000 kg. Such a tent can be transported on one carriage, while the old barrack required three carriages. A rigid tent can be mounted in two hours while the mounting of a wooden barrack requires several days. The beds are stretcher-beds, 0.75 meter wide. When the patients are carried from one tent into another these beds are transformed into stretchers of the width of 0.55 meter. The patients are thus transported without leaving their bed.

What Can Be Done for the Improvement of the Care of the Sick in the County Districts. A Socio-Economic Study. J. L. Wortman. Ziekenhuis, Amsterdam, 1917, VIII, No. 9.

The economic side of sickness is not fully appreciated in the Netherlands because the care of the sick is not fully regulated by law. Where sickness insurance exists, the economic loss to society from sickness can be shown in exact figures. To form an idea of this loss we may take the statistical data of the German sickness, invalid and accident insurance. In 1909 this institution spent 369 million marks for sickness, 189 millions were paid to invalids (including old age pensions) and 162 millions in accident cases, altogether 720 millions. Assuming that in Germany about one-fourth of the people are insured, we can readily calculate how much the whole people spends for sickness and accidents. The most important capital of the state and of society is man. Each human life represents a certain value. To preserve it in its fullest possible vigor is not only a humane task, but a duty in the interest of the state. This aim can only be attained by a compulsory sickness insurance. Such insurance should fulfill three chief requirements: 1. It should include all persons whose means do not enable them to take care of themselves in sickness. 2. It should furnish the best possible treatment. 3. It should provide the means for preventing sickness and for combating the spread of disease. A hospital in the country districts should serve not less than 5000 inhabitants. Diseases which require hospital treatment are infectious diseases, tuberculosis, grave acute diseases, cases of pregnancy where complicated labor may be expected as well as accident cases.

BOOKS RECEIVED FOR REVIEW

Radiography and Radio-Therapeutics. By Robert Knox, M. D. (Edinburgh), M. R. C. S. (England), L. R. C. P. (London), Consulting Radiologist, Great Northern Central Hosiptal, London; Captain R. A. M. C. (T.) 4th London General Hospital (in Charge of X-Ray Department). Cloth, pp. 383, with 78 plates, $9. The Macmillan Company, New York, 1917.

Burdett's Hospitals and Charities. By Sir Henry Burdett, K. C. B., K. C. V. O., editor of *The Hospital.* 1917. Being the Year Book of Philanthropy and the Hospital Annual. Twenty-eighth Year. Cloth, pp. 1017, 12 shilling 6 pence (63 cents duty). The Scientific Press, Ltd., London, 1917.

Disasters and the American Red Cross in Disaster Relief. By J. Byron Deacon, General Secretary, Philadelphia Society for Organizing Charity, Division Director of Civilian Relief for Pennsylvania. Cloth, pp. 215, 75 cents. Russell Sage Foundaton, New York, 1918.

Proceedings of the National Conference of Social Work. At the Forty-Fourth Annual Session held in Pittsburg, June, 1917. Permanent Headquarters, 315 Plymouth Court, Chicago.

Finding and Stopping Waste in Modern Boiler Rooms. A Reference Manual to Aid the owner, Manager, and Boiler Room Operator in Securing and Maintaining Plant Economy. Vol. 2. Flexible cloth, pp. 270, $1. Harrison Safety Boiler Works, Philadelphia, 1918.

The Baird-Dulaney Hospital Company, now operating the former Hosmer Hospital at Dyersburg, Tenn., has recently purchased a $10,000 residence in Dyersburg, which they propose to fit up for hospital purposes, operating it as an adjunct to the present hospital.

George W. H. Allen, of Pasadena, Cal., has announced his intention of erecting in connection with the Barlow Sanitarium, of that city, a hospital as a memorial to his friend, Justin Morell McKenna, of London, who was killed in action at Wasnes au Bac, France, October 2, 1917. Preference in the use of the building will be given to tubercular soldiers, it is stated.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Artificial Arms.

Since the beginning of the war in Europe, medical journals, as well as trade journals published abroad, have described at great length some of the many new devices that have been invented for the purpose of enabling the

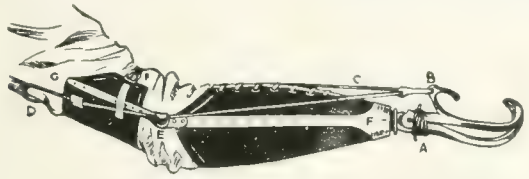


Fig. 1. Dorrance arm, showing general construction.

soldiers who are unfortunate enough to lose a leg or an arm, to become again, at least to a certain extent, self-supporting. Since the entrance of our country into the conflict, it has become necessary for our surgeons to

Fig. 2. Arm applied, showing method of grasping table knife or any other implement by means of the utility hook.

familiarize themselves to a greater extent than heretofore with the products of the orthopedic specialists and the artificial limb-maker. We will endeavor to acquaint our readers with any new inventions of merit in this line that may be offered in the future, but for the present, we wish to call their attention to the "Dorrance Utility Arm." This arm is not exactly a recent invention, but we believe that perhaps certain important features of it have not been given the attention they deserve.

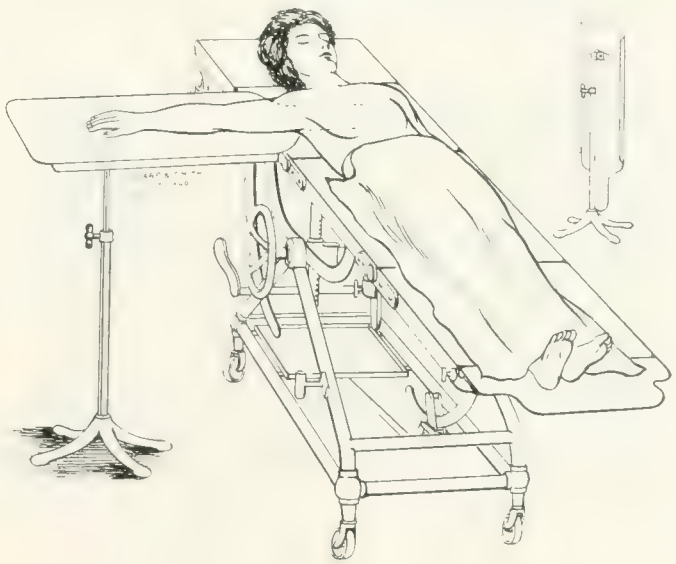
This apparatus consists of three parts; the arm, the hand and the Dorrance utility hook. The arm is made either of leather, wood or wood fiber, reinforced with steel ribs. The hand, like other artificial hands, is chiefly for the purpose of appearance, and the hook is the real useful part of the outfit. It is a most peculiarly shaped device, consisting in fact of two hooks, bent and hinged together in such a manner as to provide means of grasping and holding practically anything that can be held in the natural hand. It is opened by a shrug of the shoulders, no matter in what position the arm is in, and is closed by a spring. The spring is not made of metal, but consists of rubber bands. The reason for this is that a metal spring would have enough strength when new, but would become weak with use. The manufacturer states that he is aware of the fact that rubber bands also become weak and wear out, but new ones can be purchased at almost any store at a slight expense and replaced in a few moments by the wearer himself.

The hook and the hand can be rotated and are held firmly in any desired position by pressure against a rubber cushion. The hand is of willow, with movable thumb, and the thumb is operated by the same cord that operates the hook. As will be seen from the illustrations, the hand slips over the hook; therefore one never has to take the hook off.

Judging from the simplicity of construction and the ease with which it can be manipulated for doing practically all kinds of work, it seems that, especially for the laborer and mechanic, this is a most desirable artificial aid.

Useful Attachment to Operating Tables

The purpose of the arm-support or table shown below will be at once apparent to the reader. Dr. C. L. Lemon, Milwaukee, Wis., who in his capacity as surgeon for the Electric Light and Railway Company has many emer-



Arm-support, attachable to operating tables.

gency cases to take care of, devised it to meet his requirements for operations on the hand and arm.

The table, when not in use, as will be seen from the

smaller illustration, occupies but very little floor space. It is adjustable in height and has distinct advantages over other means now being used for holding the arm for treatment, as it affords the surgeon access to the injured member from either side of the table. It is also very suitable for the administration of salvarsan, for blood transfusion, and for minor dressing about the hand and arm.

The table is mounted on a heavy cast-iron base; the upright has an extension with thumb-screw adjustment, and the top is hinged to allow for any adjustment that may be desired. The outfit is finished in white enamel, and, although it has a firm base, it is still light enough so that a nurse can carry it from one room to another, as the occasion may demand.

Substitute for Absorbent Cotton

That an apparently good substitute for absorbent cotton is now being offered at a considerably lower cost than regular absorbent cotton undoubtedly will be welcome news to the hospital world, especially at this time when there is such an unprecedented demand for absorbent cotton from all over the world.

Fig. 1. Sectional cut from a sheet of "Cellucotton."

This great demand has naturally had the inevitable effect of bringing the price of even a very poor grade of absorbent cotton to a figure at which a few years ago first-class material could be purchased.

This new substitute is being offered under the trade name of "Cellucotton." We are informed that this material has been given a thorough test in a number of first-class hospitals where it has been used in all kinds of surgical cases, and the reports submitted state without exception that the product has been found a satisfactory substitute for absorbent cotton. Scientific tests which have been made prove that the absorbing capacity of this preparation is much quicker than cotton, and that the total absorption capacity is only a few percent lower than that of a good grade of cotton. The average percentage of absorption of cotton in these tests was found to be 20.74, while the average absorbence of "Cellucotton" was 18.48.

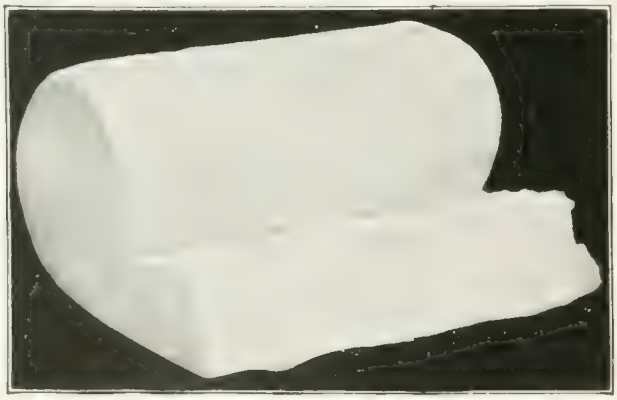


Fig. 2. Roll of "Cellucotton" showing resiliency of the material.

The material is put up in rolls similar to cotton and can be sterilized in the regular manner.

Anesthesia Emergency Outfit

In order to improve operating efficiency, at a time when efficiency is most needed and when minutes mean lives, Dr. J. R. McCurdy, director of the department of anesthesia, Western Pennsylvania Hospital, Pittsburgh, Pa., had assembled an emergency outfit for each operating room. His aim was to have immediately and constantly at hand (literally at hand, because the table is always within reach of the anesthetist) apparatus and drugs adequate for quick management of all anesthetic accidents and operative shock. The equipment is such that the anesthetist can himself, without the aid of other help if necessary, promptly and quickly apply restorants, stimulants, etc.

The table he selected is of light sheet metal, white enameled and mounted on 5-inch rubber-tired wheels. The dimensions are 16 by 20 by 30 inches high.

On the top shelf are kept the following instruments and drug supplies:

1 Carmalt's tongue forceps.
2 Ferguson-Hewitt artificial airways, adult and child.
1 Stille throat sponge forceps.
2 mouth-gags (Denhardt's or Roser-Koenig).
1 hypo tray containing:
  1 syringe loaded with camphorated oil.
  1 syringe, ordinary, empty.

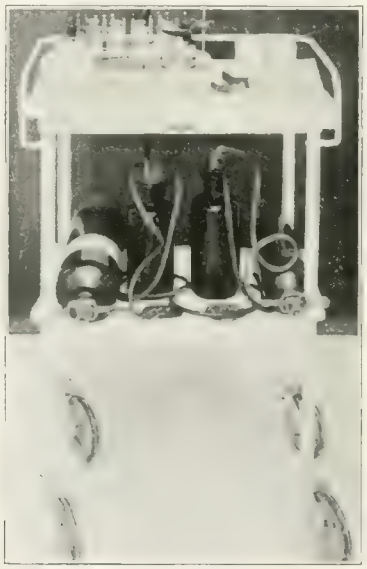


Fig. 1. McCurdy anesthesia emergency outfit.

Tablets or ampules of morphine sulphate gr. ⅛, morphine gr. 1/6 and atropine gr. 1/100, strychnine sulphate gr. 1/30, nitroglycerine gr. 1/100, digalen, caffein and sodium benzoate, ergot, pituitary extract, bottles of adrenalin chloride, spiritus frumenti, olive oil, alcohol, sterile water, camphorated oil.
2 small ointment jars containing lysol and alcohol sponges.
2 ¼-pound cans ether (Squibb's) with wick corks.

On the lower shelf there are constantly kept ready for use two complete oxygen wash-bottle sets, with outlet tubing long enough to reach easily to the patient's face, one a "style B" pure oxygen cylinder, the other a "style D" cylinder containing 90 percent oxygen and 10 percent carbon dioxide. Dr. McCurdy considers this latter mixture the most valuable resuscitating agent in the entire equipment, as he has found it the most prompt and efficient stimulant in conditions of respiratory depression or shock from almost any cause except pure asphyxia. He further states that its effect on both respiration and circulation is most gratifying, and that in cases of insufficient ventilaton he frequently exhibits a slow stream of it underneath the ether inhaler (a Ferguson) at intervals throughout the administration of ether.

The instruments on the table were selected from the standpoint of efficiency and proper care of the patient. The Carmalt forceps for holding the tongue was chosen because, when properly applied, causes neither injury nor

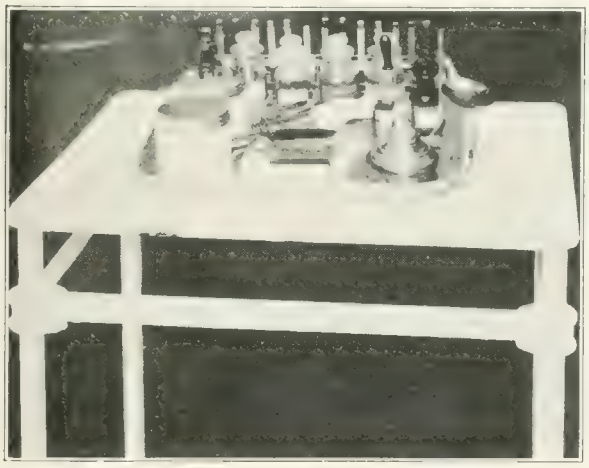


Fig. 2. Western Pennsylvania Hospital hypodermic tray.

pain; the Ferguson-Hewitt airway because it is light, easily adjusted, self-retaining, and there is no possibility of accidental drops of ether reaching the throat. The Stille throat sponge forceps was selected because of its curved shank and strength; the Roser-Koenig mouth-gag for opening the jaw when teeth are set, and the Denhardt for keeping the mouth open for ventilation or taking care of vomiting.

The hypodermic tray is one especially devised by the Western Pennsylvania Hospital Training School. It consists of a nickel-plated rack or holder for hypodermic tubes, glass-stoppered bottles and ointment jars, made to fit neatly on a rimmed white-enameled tray 10 by 12 inches. A useful feature is an alcohol lamp with large spoon attached by means of wire staff, the whole fitting into space in the rack.

The selection of hypo tablets, ampules, etc., has been gradually worked out as the most useful in the Western Pennsylvania Hospital surgical clinic, but the items can, of course, be changed to suit different surgeons and anesthetists.

New Office and Bathroom Scale

The "Detecto" is the name under which the scale illustrated here is being offered to the profession by the surgical supply houses. There are no coil springs, lifting beams or weights to be taken care of and all that is necessary is to step on the corkmat-covered platform and one's weight can be read off from the large dial.

The internal construction is extremely simple. Two flat, hardened steel bars, the ends of which are attached at one side to a steel post and on the other end to the weighing platfrom post, do the weighing. The spring steel

The "Detecto" office and bathroom scale.

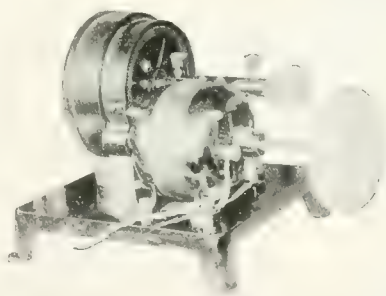
bars are of the same type as are used between axles and bodies of trucks and automobiles that carry tons of weight.

There is an adjustment device on the scale, by means of which it can be set, if a basket is put on the platform for the purpose of weighing a baby, etc. The scale is 12 inches in height, width, and length; the dial is 7 inches in diameter and is placed horizontally with the platform, showing every pound up to 300. The weight of the entire scale is 17½ pounds.

A Motor-Operated Knife-Cleaning and Silver-Buffing Machine

A knife-cleaning and silver-buffing machine has been developed and put on the market by the Ernest Koeppen organization of New York city. According to the type of motor supplied, the outfit can be used on circuits of 110- or 220-volt D. C. or on 60-cycle A. C. of 110 or 220 volts.

The complete device consists of a pair of patented cleaning or polishing brush-disks and a fractional horsepower General Electric Company motor, which drives the disks through gears. In addition to this it has a shaft



Motor-operated knife-cleaning and silver-buffing machine.

extension, to which a wheel can be attached for the purpose of buffing light silverware or rinsing coffee-pots or tea-pots, etc.

The knife-cleaning takes place between the brush-disks in the inclosed drum on the left of the motor, and it is claimed that the cleaning or polishing brush-disks will serve several hundred thousand knife blades without renewal, which when necessary can be done at a low cost.

The butt of the knife handle is polished by the special attachment at the right end of the backgear shaft.

LETTERS TO THE EDITOR

How to Avoid Monotony of Sanatorium Diets

To the Editor of THE MODERN HOSPITAL:

In a recent edition of the *Survey* there was published a short article on the monotony of sanatorium diets which should call to the attention of all hospital superintendents, their responsibility in supervising all the dietaries of their institutions.

In this article, considerable stress is laid upon the fact that sanatoriums carelessly allow the menu to be made up by the week and repeated over and over again, so that the meals falling on each week day are always the same.

In the hospitals and sanatoriums of the Department of Health of the City of New York, this condition has been overcome to a very large extent by preparing a series of menus running over a period of four weeks and then repeating this, insuring that there will be no repetition of the same meal on any week day. In these hospitals, an attempt is also made to prepare and serve the food much in the same way as it would be in any well conducted home, and in the dining rooms to place together those patients who are congenial and seem to desire mutual association.

The questions of the value of food, its scientific preparation, its economical distribution are to be settled in the dietetic laboratory and not to be brought to the attention of the patients. Very good food is sometimes spoiled for the person to whom it is served by the many injunctions received in regard to it and the restrictions placed upon the patient as to the manner of its ingestion.

ROBERT J. WILSON,
Director Bureau of Hospitals, Department of Health of the City of New York.

Legitimate Hospital Advertising

To the Editor of THE MODERN HOSPITAL:

I ran across a photograph the other day that I thought might interest you. Some time ago in our city a pure food show was held in our largest auditorium. We are mailing you this photograph that you may see how the hospital did a little advertising. Each afternoon the head of the

The Wesley Hospital booth at the pure food show in Oklahoma City.

department of home economics of our high school delivered a lecture here to several hundred women. Of course, many mothers would have been denied the privilege of hearing these valuable lectures on home economics if no provisions had been made for looking after the little ones. So we had our nurses take care of the babies. The door under the "Quiet Please" sign leads to the nursery, while in the booth we attempted to represent one of our maternity rooms at Wesley.

You will note that both of the signs "Wesley Hospital" and "Quiet Please" are electric. These were taken from the hospital. We have the "Wesley Hospital" sign in front of the hospital, while at the ends of the halls, going in any direction, we have one of these "Quiet Please" electric signs.

As a great many people were in attendance, and as only one phone was accessible and that phone hard to find, I had a telephone placed at our booth, as you will see, and connected up direct with my telephone switchboard at the hospital. So it was impossible for anyone to get central without having our operator at the hospital say "Wesley Hospital" when they would pick up the receiver. Then our operator at the hospital would give the party central and central would give them their number. I am a member of the Ad Club in Oklahoma City, and some of the men said this last stunt was "pretty poor (?)."

I did not know but that you might use this in getting some of our hospitals to take advantage of publicity of this character to get people more interested and sympathetic in the work that the hospitals are doing. We believe upon the whole that the advertising received by this means was most excellent.

F. K. CAMP, M. D.,
Superintendent, Wesley Hospital, Oklahoma City.

Reporting of Accidents from Local Anesthetics

To the Editor of THE MODERN HOSPITAL:

The Committee on therapeutic research of the Council on Pharmacy and Chemistry of the American Medical Association has undertaken a study of the accidents following the clinical use of local anesthetics, especially those following ordinary therapeutic doses. It is hoped that this study may lead to a better understandng of the cause of such accidents, and consequently to methods of avoiding them, or, at least, of treating them successfully when they occur.

It is becoming apparent that several of the local anesthetics, if not all of those in general use, are prone to cause death or symptoms of severe poisoning in a small percentage of those cases in which the dose used has been hitherto considered quite safe.

The infrequent occurrence of these accidents and their production by relatively small doses point to a peculiar hypersensitiveness on the part of those in whom the accidents occur. The data necessary for a study of these accidents are at present wholly insufficient, especially since the symptoms described in most of the cases are quite different from those commonly observed in animals even after the administration of toxic, but not fatal, doses.

Such accidents are seldom reported in detail in the medical literature, partly because physicians and dentists fear that they may be held to blame should they report them, partly, perhaps, because they have failed to appreciate the importance of the matter from the standpoint of the protection of the public.

It is evident that a broader view should prevail, and that physicians should be informed regarding the conditions under which such accidents occur in order that they may be avoided. It is also evident that the best protection against such unjust accusations, and the best means of preventing such accidents consist in the publication of careful detailed records when they have occurred, with the attending circumstances. These should be reported in the medical or dental journals when possible; but when, for

any reason, this seems undesirable, a confidential report may be filed with Dr. R. A. Hatcher, 414 East Twenty-Sixth Street, New York City, who has been appointed by the committee to collect this information.

If desired, such reports will be considered strictly confidential so far as the name of the patient and that of the medical attendant are concerned, and such information will be used solely as a means of studying the problem of toxicity of this class of agents, unless permission is given to use the name.

All available facts, both public and private, should be included in these reports, but the following data are especially to be desired in those cases in which more detailed reports cannot be made:

The age, sex, and general history of the patient should be given in as great detail as possible. The state of the nervous system appears to be of especial importance. The dosage employed should be stated as accurately as possible; also the concentration of the solution employed, the site of the injection (whether intramuscular, perineural, or strictly subcutaneous), and whether applied to the mouth, nose, or other part of the body. The possibility of an injection having been made into a small vein during intramuscular injection or into the gums should be considered. In such cases the action begins almost at once, that is, within a few seconds.

The previous condition of the heart and respiration should be reported if possible, and, of course, the effects of the drug on the heart and respiration, as well as the duration of the symptoms, should be recorded. If antidotes are employed, their nature and dosage should be stated, together with the character and time of appearance of the effects induced by the antidotes. It is important to state whether antidotes were administered orally, or by subcutaneous, intramuscular, or intravenous injection, and the concentration in which such antidotes were used.

While such detailed information, together with any other available data, are desirable, it is not to be understood that the inability to supply such details should prevent the publication of reports of poisoning, however meager the data, so long as accuracy is observed.

The committee urges on all anesthetists, surgeons, physicians, and dentists the making of such reports as a public duty; it asks that they read this appeal with especial attention to the character of observations desired.

TORALD SOLLMANN, Chairman,
R. A. HATCHER,

Special Referee, Therapeutic Research Committee of the Council on Pharmacy and Chemistry of the American Medical Association.

He that knows not, and knows not that he knows not, is a fool.
Pass him by.
He that knows not, and knows that he knows not, is worthy.
Teach him.
He that knows, and knows not that he knows, is asleep.
Awake him.
He that knows, and knows that he knows, is wise.
Follow him.

—From the Arabic.

Dr. Alice M. Smith, who recently succeeded Dr. R. J. Cary as superintendent of the Mountain View Sanatorium, Pierce County's tuberculosis hospital, at Lake View, near Tacoma, Wash., has tendered her resignation to become effective May 1.

QUERIES AND ANSWERS

The Ten O'Clock Switch

To the Editor of THE MODERN HOSPITAL:

Our nurses' home, when reconstructed, is to be equipped with new and complete electric lighting. I would like, if possible, to have what I have heard called a "ten o'clock switch." Can you explain how this is planned in new nurses' home buildings, so that our local firm of electricians could carry it out?

TRUSTEE OF MIDDLE WEST HOSPITAL.

We take it that you mean some system of wiring your nurses' building so that the lights may be turned off all at one time in the rooms occupied by pupil nurses at 10 p. m. or at any other time. Any good electrician can make your wiring so that all the lights in your pupils' rooms can be on one switch, which will be located where it is under the supervision of your head nurse or matron, or whoever is responsible for this ruling. These wires, fuses, and switch control must be entirely separate from those which control lights in general living rooms, supervisors' rooms, halls, bathrooms, or utility rooms.

Inexpensive Memorial Tablets

To the Editor of THE MODERN HOSPITAL:

Do you know of some inexpensive way that a memorial tablet could be made to put in our entrance hall? We find that bronze and other metal tablets will cost more than we can afford to pay, and we wish to place a wall tablet in memory of a member of our board of trustees who always supported the hospital in a most liberal manner and left us a subtantial sum in his will.

CHAIRMAN OF COMMITTEE.

We noticed in a small hospital recently some very attractive tablets made in this way: Black glass or heavily black enameled wood of the required size was set in the wall; this was covered with heavy glass the same size and of good grade, on which the letters were made in heavy gold lettering. The glass was flush with the wall and the whole thing surrounded by an attractive molding corresponding to the general scheme of the woodwork used in the hospital hall. These tablets are not expensive and make a good appearance when finished.

What to Do With Washed Bandages

To the Editor of THE MODERN HOSPITAL:

When considering the conservation and reclamation of surgical dressings, it has always been a question in my mind whether it is worth while to wash the ordinary factory-made gauze bandages we buy by the pound, there being only a small percentage coming out of the laundry which can be rerolled or reclaimed. Can you tell us of any means other hospitals use to stop this waste?

HEAD NURSE OF A WESTERN HOSPITAL.

St. Mary's Hospital, Detroit, has a good plan for the reclamation of washed bandages. The best of the narrow bandages are thoroughly picked over, freed from threads and lint, resterilized and used for narrow packings.

These packings are softer and more absorbent than new gauze, and are preferred by the surgeons there.

The best of the wider bandages are moistened and rolled while wet. The waste is cut in definite lengths of about 30 inches, several dozen of these lengths are laid evenly together and sewed in the middle through another strip. These make splendid mops, are better than the commercial cord mop, and shed less lint on the floors.

Hospital Inventories

To the Editor of THE MODERN HOSPITAL:

What is your opinion in regard to hospital inventories? One hears so many arguments for and against them in hospital magazines and in reports of various association meetings.

SUPERINTENDENT OF A CITY HOSPITAL.

So far as our experience goes, a card index system of perpetual inventory, filed alphabetically and containing only the standard and not perishable things, is the best. Such card system should contain the name of the article at the top and headings across as follows: "Date of purchase," "From whom purchased," "Quantity," "Withdrawals," "Balance on hand," and space for remarks.

In each of your storerooms there should be two sheets, one containing memoranda of all receipts of goods and another of all those distributed. These should go to the bookkeeper every night. The form of these sheets would have to correspond somewhat to the stock and the needs of your hospital.

Special inventories must necessarily take a lot of somebody's time to keep up, and they are of no use unless kept up daily. For this reason their usefulness is often in doubt. If your hospital supplies of all kinds are carefully requisitioned, check kept of breakage and replacement, and your storerooms in charge of capable and conscientious people, a perpetual inventory, which must take so much of time and labor when both are needed for more important work to be done, may very well be dispensed with.

HOSPITAL ORGANIZATION IN NEW YORK CITY FOR WAR NEEDS

Work Accomplished by the Mayor's Committee on Hospital and Medical Facilities

Shortly before war was declared by the United States against Germany, Hon. John Purroy Mitchel, then mayor of New York City, realizing the desirability of thorough and timely preparation for the care of the sick and wounded in the event of hostilities, appointed a Committee on Hospital and Medical Facilities to organize the hospital facilities of the city for war needs. The central committee consisted of twenty-one members representing the federal government, some of the city departments and the principal hospitals in the city, with Dr. S. S. Goldwater, superintendent of Mount Sinai Hospital, as chairman, and Mr. Joseph J. Weber, executive secretary of the committee on hospitals of the State Charities Aid Association, as secretary. In order to secure the cooperation of the hospitals throughout the city, a Council of Associated Hospitals was organized. This council comprises representatives of all the hospitals in Greater New York with a capacity of one hundred or more beds.

The committee's first piece of work was to make a comprehensive survey of the emergency ward beds in public and private hospitals which could be placed at the service of the United States Government. The information gathered by this survey was carefully classified, tabulated, and sent to the Army and Navy Departments, the American Red Cross, and the Council of National Defense.

Because the limited facilities at the Brooklyn Navy Yard for the care of contagious disease cases were early exhausted, the Navy Department appealed to the Mayor's Committee for additional facilities. Through the committee, the New York City Department of Health placed facilities in its contagious disease hospitals at the service of the Navy Department.

Arrangements have also been made for the navy with a number of private hospitals in Brooklyn for the care of general medical and surgical cases transferred from the Navy Hospital. Between September 7, 1917, and February 11, 1918, 735 navy patients were transferred from the Navy Yard Hospital to various private hospitals, mainly in Brooklyn.

As the representative of these and other New York hospitals, the Mayor's Committee entered into an agreement with the navy relative to rates of payment for enlisted men and officers.

When the British Recruiting Mission established an office in New York City, they found themselves without a sufficient number of physicians to handle the large number of recruits and appealed to the Mayor's Committee for help. A number of volunteer physicians were furnished the mission.

The committee has acted as a clearing house for the Bureau of Health and Hospitals of the office of the Adjutant General of New York State, and has furnished that bureau with information regarding New York hospitals.

The committee has called the attention of the Board of Ambulance Service to the need of very definitely organized ambulance service for the transportation of returned sick and wounded soldiers and sailors, and has received the assurance of the Board of Ambulance Service of their cooperation and of the possibility of focusing at a given point whatever ambulances may be needed to meet an emergency.

At the request of the U. S. Navy Recruiting Station the committee has collected information from a number of hospitals as to their willingness to receive promising recruits for the treatment of minor physical defects which if corrected would make them eligible for service.

In the interests of the army no less than of the civil population, the committee last summer carried on a successful agitation for the enlistment in the Enlisted Reserve Corps of the Medical Department of second, third, and fourth year medical students and hospital interns, thereby permitting these students and interns to complete their medical training.

Last fall the committee sent a circular letter to all the medical schools of the country for the purpose of ascertaining the effect of the selective draft law upon the enrollment of first-year medical students. The information gathered showed that, contrary to expectations, the schools with some few exceptions had a larger enrollment of first-year students than usual.

At the request of the New York County Chapter of the American Red Cross, the committee arranged with several hospitals for the care, from time to time, of French soldiers and sailors in need of hospital treatment.

Arrangements were made with the Board of Ambulance Service for the transfer of general medical, surgical, and contagious cases from Camp Mills to Willard Parker, Rockefeller, and other hospitals.

The committe also made arrangements for the transfer of about 180 cases from Base Hospital No. 1 to various civil hospitals, in order to make room for cases transferred from Camp Mills.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. X *April, 1918* No. 4

SOLDIERS AND THE CIVIL HOSPITALS

Shall Civil Hospitals Be Used for the Care of Military Patients?—Confusion of Three Distinct Problems—Necessity of Conserving Money and Effort in the Care of Military Patients

By S. S. GOLDWATER, M.D., New York, Chairman War Service Committee American Hospital Association; Chairman Mayor's Committee on Hospital and Medical Facilities, New York City; Consultant Health and Hospitals, Board of Estimate and Apportionment, New York City.

SHOULD the civil hospitals in this country be used for the care of military patients, and, if so, under what circumstances?

Immediately after our entrance into the war the Medical Department of the army announced that soldiers would not be sent to civil hospitals "except in emergencies." That emergencies were expected to arise was shown by an official questionnaire requesting information concerning the capacity and equipment of civil hospitals, their willingness to accept such military patients as might be assigned to them, and the terms on which officers and enlisted men, respectively, would be received. Within a short time invalided soldiers and sailors were seen in a number of civil hospitals, side by side with other patients. In February, 1918, the New York State Committee, Medical Section, Council of National Defense, ascertained that forty-six civil hospitals in the state were caring for patients for either the army or navy; a minority of these came from the army, a majority from the navy. The extent of the use of civil hospitals by the navy is indicated by the fact that up to the present time about $50,000 has passed through the hands of the Mayor's Committee on Hospital and Medical Facilities in compensation for the care of navy cases in municipal and private hospitals in New York city. In Philadelphia, Boston, and elsewhere the navy has utilized freely the resources of civil hospitals.

In the discussion of the use of civil hospitals by the Government there has been much confusion because of a failure to separate three distinct problems. Army men are heard declaring that it is impossible for civil hospitals to care for sick soldiers because civilian doctors have had no military training, know nothing of military needs, and are incapable of deciding whether a soldier who has been physically incapacitated either by injury or illness is fit to resume his place in the ranks—an argument that applies especially to conditions at or near the front. Other exponents of army policy point out that the number of sick in the cantonments is so enormous that, even where the cantonments are located in the neighborhood of cities, nearby civil hospitals are powerless to deal with the situation; they point out, in addition, that a certain proportion of the cantonments are so far removed from important centers of population that the transfer of the sick from such cantonments to the nearest available hospitals is impracticable. Meanwhile the advocates of the use of civil hospitals are thinking neither of conditions in France, where there are no available civil hospitals, nor of the cantonment sick, but of quite another problem—namely, the care of men incapacitated by disease or injury for service with the fighting forces, men who would appear to be an incumbrance to the army and a burden to its Medical Department. The Medical Department of our army, however, does not appear to share the opinion which, according to a current story, was vigorously expressed by the Medical Commandant in whose district the first shipload of derelicts from France arrived in Canada, and who flatly declined to have anything

to do with them on the ground that his services could be more profitably employed in the preparation of men for the fighting line. In the opinion of this army physician the time of military officers would be wasted if devoted to the care of physical wrecks returned from France, this being a job for a civilian, not a military man.

The civil hospitals, in the words of an official communication from Washington, "cannot be counted on to relieve the Medical Department of the necessity of providing additional hospital facilities." The army proposes that men "returning from abroad" shall be "cared for in special military hospitals." But the question at issue is whether this is the best way of caring for these men—a question which the national administration should seriously consider. On this point the Honorary Secretaries of the British Hospitals Association, on February 5, 1918, declared that "disabled soldiers and sailors are entitled to the best treatment that their country can provide," and that they believed "that that treatment is to be found in, or in connection with, the voluntary hospitals." It is significant that this declaration was publicly made in connection with the promulgation of an agreement between the British Hospitals Association and the British Government for the treatment of disabled soldiers and sailors sent to the civil hospitals by or in behalf of the Ministry of Pensions.

That additional hospital facilities must be provided by the Government is obvious; civil hospitals cannot "relieve" the Government of this necessity, but the extension and development of existing civil hospitals and sanatoriums under government direction, in accordance with a Government program, and with the support of Government funds, may conceivably be a better way of providing the additional facilities required than the purchase of hospital sites in localities remote from the centers of population, and the erection, upon such sites, of costly "special military hospitals" which are likely to experience difficulty in obtaining competent staffs, and still greater difficulty in retaining desirable men in the service of the Government after the war.

Early in February, in a memorandum submitted to Surgeon General Gorgas, by his request, on behalf of the War Service Committee of the American Hospital Association, it was proposed that the Medical Department undertake immediately a study of the conditions under which and the extent to which civil hospitals could best be utilized for army purposes. The War Service Committee asked that this study be systematic, and suggested that it should include consideration of the problem, first, from the standpoint of general administration, embracing such questions as the duplication of plant and equipment, and the availability of administrative personnel; second, from the standpoint of medical administration, including a thorough analysis of all of the difficult problems of medical organization and especially the problem of acquiring a fit corps of physicians during and their retention after the war; and third, from the standpoint of nursing, in which field there are many special problems which demand painstaking investigation and careful planning.

Has the Medical Department actually made such a study? Is its present policy founded on adequate knowledge of its present and future needs, and of the resources of the country, or on habit and tradition? Has the army studied impartially, and is it today being guided in any degree by the recent experience of Canada and Great Britain? Is the Government concerned at all for the effective maintenance of the civil hospitals, or is it willing to drain these hospitals of their personnel and other resources in order to build up huge and possibly unnecessary hospital machinery to be operated under army auspices?

Is there anything suggestive in Canadian experience? For example, to what extent are the civil hospitals in Canada now caring for military patients? Is the practice of assigning military patients to civil hospitals in Canada increasing or decreasing, and why? What circumstances led to the use of civil hospitals in Canada for patients of this description? Has there been and is there now any popular demand for the assignment of military patients to civil hospitals in Canada? These questions were recently addressed by the writer to the Military Hospitals Commission Command at Ottowa. From a reply, which is too lengthy to reproduce in full, I quote the following:

"On February 8 there were 7,213 soldiers who were being treated as in-patients in the Dominion. The number in general civil hospitals was 418; but these figures do not cover men suffering from tuberculosis, who are treated in civil sanatoriums. Of the 22 sanatoriums at present used by the Commission, 13 continue to take care of the needs of the local civilian population. With regard to the insane, practically every provincial institution in the country receives military patients when it has accommodations for them. The Commission also operates its own asylum. The practice of assigning military patients to civil hospitals has up to the present been on the increase, and, as the Commission is not retaining institutions for its exclusive use in all centers, it is likely that they will have to make use to an even greater extent of the local civil hospitals—at any rate, for a time. In the early days, when patients were returned to Canada, they were nearly all convalescent; at a later date the authorities overeas commenced to send back active treatment cases, which which were distributed throughout the Dominion, *it hav-*

ing been found very difficult to divert a man to a surgical center, owing to his desire to be treated in his home district and also owing to popular demand. The great bulk of the patients placed in the civil hospitals are those who come back as convalescents and whose disabilities afterward increase, necessitating hospital treatment. If such men happen to be in a district where there is no Military Hospitals Commission Active Treatment Hospital, the only resort is to the local civil hospital."

In a communication dated February 21 Secretary Baker stated that "the cooperation of civil hospitals is a question requiring further study to determine the extent to which civil hospitals are to be used." We trust that this study was undertaken promptly, and that it is being prosecuted vigorously and open-mindedly.

The army cannot afford to spend money for the construction of unnecessary buildings. It ought not to make a single serious blunder in the location of a "special military hospital." It cannot intend to erect costly sanatoriums to which soldiers returning from the other side will prefer not to go because of the distance of such sanatoriums from their homes.

The army cannot afford to establish "special military hospials" anywhere, for any purpose, unless it can place and keep in such hospitals competent staffs. It ought not to break up the clinical and nursing organizations of the civil hospitals for any reason less imperious than sheer military necessity. It cannot and, unless we are greatly mistaken in Secretary Baker, in General Gorgas, and in the men with whom General Gorgas has surrounded himself, it will not desire to adhere to any policy which runs counter to the principles of conservation, or which tends to lower national efficiency during or after the war.

HOSPITAL SCHOOLS FOR CRIPPLED SOLDIERS

Disadvantages of the Old Pension System—Economic Rehabilitation of the Disabled Man a Modern Idea—French, English, Italian, German, and Canadian Methods —Duty of Improving on European Methods in the United States

By DOUGLAS C. McMURTRIE, New York, Director Red Cross Institute for Crippled and Disabled Men, President Federation of Associations for Cripples, Editor American Journal of Care for Cripples.

WE may as well confess to having failed, in the past, in the after-care of the crippled soldier. With an arm amputated at a field hospital, the best the man could hope for was treatment of the stump until it healed, provision of some makeshift artificial member, and the award of a pension. This latter was too niggardly to provide for decent support, and it generally left a seriously disabled man semidependent on relatives or friends, or slated him to become an inmate of a soldiers' home. In any event, the pention system, taken alone, promoted idleness, which, in turn, led often to intemperance or vagrancy. The governmental principle was that the wounded soldier was entitled to support by the community for the rest of his days, and the men themselves subscribed only too heartily to this pernicious theory.

The idea that the disabled man should be rehabilitated economically and socially is one of comparatively recent origin. Every surgeon, every hospital director, and every social service nurse will recall patients who had to be discharged without having been put in shape to face life again, simply because neither the hospital nor the local community provided facilities for putting these men "back on their feet."

With the increase of machine processes in industry, the number of work accidents has greatly increased. In Canada today, after three years of war, there are more industrial cripples than disabled soldiers. So the civilian aspect of the problem is of as great importance as the military, and the improvement in the care of disabled men brought about in a time of war must be continued and made permanent.

The new conception is that the cripple must again be made useful, and, although prevented by his handicap from pursuing his former trade, must be trained for a new one in which his disability is no handicap. The man who has lost his legs must be trained for work which can be performed with the use of the hands alone while he is seated. The one-armed cripple must be instructed in a trade in which one good arm and a prosthetic appliance on the stump of the other will suffice. A cripple is a cripple only in the sense that he cannot perform the duties of his daily life. If these duties can be chosen to fit his range of capability, his handicap literally disappears. As one European writer vividly puts it: "There are no more cripples." Though physically disabled, they have been made socially and economically whole.

Early in the course of his treatment at a base hospital, the crippled soldier's interest in life is again aroused by simple forms of occupation, which serve therapeutically as well to hasten his

recovery. This work is quite distinct from the vocational rehabilitation which is undertaken at a later stage, but the two should be related as closely as possible. The earlier work often discloses unsuspected talents and aptitudes and, in some instances, it can be made to dovetail with the more serious subsequent training.

As the physical condition improves, the vocational work is taken up. A difficult task here introduced is to enlist the soldier's interest and enthusiasm, so that he enters on the course of his own free will. When training is not voluntary, it is not effective, for, though a man can be ordered to a classroom, he cannot be made receptive. The

Fig. 1. Both arms gone, but prepared by working prostheses to return to his farm.

man's confidence and friendship must be gained; his discouragement overcome. In the latter effort, the records of cripples who have made good are the greatest help. In Germany there is being published a three-volume work under the title, "The Will Prevails," containing autobiographies of disabled men. In this country, the Surgeon General's Office is preparing moving picture films of cripples who have overcome their handicaps, the reels to be exhibited to wounded men early in their hospital career.

In the present inflation of the labor market, even disabled men may be able to obtain temporary jobs at high wages, from which, however, they would be displaced at the end of the war. This constitutes a great temptation to the men to refuse the training opportunity. They must, of course, be shown the future consequences and brought, if possible, to make the right decision.

In selecting trades in which instruction is to be given, there should be sought those fulfilling the following conditions:

1. Of standard character, in which the employment opportunities are numerous.
2. Trades which are growing rather than on the wane.
3. Trades which are not likely to slump at the close of the war.
4. Those not subject to seasonal variation of employment.
5. Those in which the wage scale is reasonably high, and which, therefore, repay the time and effort expended in training.
6. Trades which can be taught satisfactorily within a reasonable tuition period to the pupil of average intelligence and capacity. This condition may exclude some of the crafts, success in which is dependent on artistic genius rather than workmanship.

In picking out the trade in which an individual cripple is to be instructed, the first limitations will be indicated by the type of his handicap. Within the possible range, the man's personal preference should be consulted, so that he may be as contented as possible in taking up his new work. But the most important determinative factor consists in his past experience. The greater part of an adult's education has been gained in the course of his employment, and, in planning for the future, this former experience must be conserved and built upon rather than discarded. The man's reeducation should not start from the beginning, but should be a course post-graduate to his practical training. Thus, a crippled train-hand should not be put in a printing shop when he can be taught telegraphy and put back again in the railroad world; a crippled printer should not be taught telegraphy when he can be prepared for the work of a proofreader.

So much for the general principles of rehabilitation. The actual work is carried on under two broad classifications which the French would designate respectively as the *externat* and the *internat*. In the first instance, the war cripple gets his medical and surgical care in one institution, and his training (usually later) at a vocational school. Under the second plan, hospital and industrial school are combined, and, so far as possible, medical care and vocational training go forward at the same time. The most intelligent conception of this

method is to be gained from a description of representative institutions assuming this double function of hospital and school.

One of the most interesting is the "Institut National Professionnel des Invalides de la Guerre," which the French government maintains just outside Paris under the direction of Dr. Maurice Bourillon. Overlooking a pleasant park, is the military hospital proper, formerly the "Asile National des Convalescents de Saint-Maurice." This accommodates 700 patients. Close at hand, is the school building, occupied before the war by the Vacassy Institute, a training school for cripples of which Dr. Bourillon was director. The artificial limb supply for the hospital is produced in a work-

Fig. 2. Prof. Hoeftmann, of Berlin, a celebrated authority on prosthesis, demonstrating a patient with two artificial arms and two artificial feet.

shop managed by an army officer, who was formerly a member of a surgical instrument firm. His workmen are not cripples, but soldiers on active duty, under military rule and pay.

The school can give training to 200 men. This is as many as Dr. Bourillon thinks should be prepared at a time in any one institution. In addition to these, something over a hundred men are receiving training in Paris at trades which the curriculum of the school at Saint-Maurice does not cover. They are apprenticed to various Paris shops or placed in trade schools, and are supported by the Saint-Maurice administration. They are lodged in a comfortable dormitory and receive an allowance for meals outside.

Since French war cripples may take or reject training as they choose, and the majority so far have not taken advantage of it, the school at Saint-Maurice has sufficed not only for the patients in its own hospital, but for certain discharged soldiers and sailors from other hospitals. The percentage of men electing to be trained, however, has steadily grown.

Besides the primary educational classes, necessary to perhaps 2 percent of the men examined, the school offers courses in shoemaking, tailoring, harness-making, morocco-dressing, tinsmithing, automobile construction, the operation and repairing of agricultural tractors, architectural design, simple accounting, and typewriting. The men living at the Paris annex are learning to be furriers, jewelers, hair-dressers, agricultural mechanics, dental mechanics, linotype operators, carpenters, opticians, photographers, office workers, turners, book-binders, and wood-polishers.

The men attending the classes differ widely in nearly every respect. The nature of their various injuries, their differing ages, their previous experince, all prevent uniform class work. Pupils may enroll for a class at any time; they have had no special preparation for the school; and time is of vital importance. Through careful study made by master workmen of the trade unions of Paris, apprentice courses for nearly every trade have been shortened and bettered since the war. At Saint-Maurice, the teachers of tailoring, shoemaking, and other trades have been supplied by the trade unions.

Shoemaking is one of the most popular courses for men with leg injuries. Five months' training enables a man to make a living at repairing; eight months fits him to make books.

Dr. Bourillon reports that the tailoring course has not proved as well suited to the men as indications first promised. The time required, fifteen to eighteen months, is longer than most of them wish to train; and they find the work too minutely laborious.

Men with arm injuries are doing well at the course in designing. Special tools and instruments enable the one-handed man to do the work of a two-handed draughtsman. Within five or six weeks, a man can learn to make his left hand behave as well as the right hand which he has lost. A course in ornamental design had to be abandoned, since it demanded a keener artistic sense than the average pupil possessed; but building design and surveying lead to well-paying positions.

Agricultural mechanics, as a trade for crippled soldiers, is favored especially in France, where 65 percent of the army were agricultural workers before being called to arms. It will be necessary

to put as many of these as possible back on the land. Since the use of motors is now supplementing handwork, and men with leg injuries can learn to operate and repair tractors and other agricultural machinery, the question of employment for many disabled farm-workers is answered by courses such as the one offered at Saint-Maurice. The training includes, besides the operation, upkeep, and repair of stationary engines and tractors, a theoretical study of their construction, and the elements of mechanical theory and practice (dealing with the forge, vise, machine tools, soldering, etc.). It requires five months.

Fig. 3. These crippled Italian soldiers at Naples are being taught to walk for the second time.

All pupils and apprentices at Saint-Maurice receive a daily wage of 50 centimes from the French government, except at such times as they are doing work to order for outside customers. In that case, they are paid their share of the profit. Half of their wage-money is paid to them every fifteen days; the other half is put aside for them until they leave the school.

In the first two years of the school, between May, 1915, and April 15, 1917, 923 war cripples enrolled for training. Of these, 120 gave up without completing their course; this left 803 to be reeducated; 499 had injuries of the leg, 258 of the arm, and 46 of the head, trunk, etc. Some of these had been transferred to other schools, and others had to be denied training on account of their physical condition; 719 were able to persist; 398 were placed in employment; 39 went back to their families after serving their apprenticeship; the whereabouts of 44 were not known; and 238 were still in school at the time of the report. Placement of graduates so far has been easy. Dr. Bourillon states that, on the whole, the men have found places at least as good as those they had before the war, and nearly always better—from all points of view.

The daily cost of administering the school is about 5.50 francs per capita.

The English system of hospital-schools differs somewhat from the French. Limbless English soldiers usually progress from one hospital to another, being treated at an orthopedic hospital,

Fig. 4. With the use of a special table to set over the bed, instruction in typewriting can be started at an early stage of recovery.

passing their time of convalescence at another, such as Queen Mary's Auxiliary Convalescent Hospital at Brighton, being fitted with artificial limbs at a third, and finally returning to an orthopedic hospital to await discharge. In all of these are workshops where either curative exercise and tools or definite vocational training can be had. After discharge from military service, men who wish to be trained to a trade and need such training are recommended for it and sent to a first-class technical school.

Queen Mary's Auxiliary Hospital at Roehampton is the great limb-fitting hospital for England, as that at Brighton is the principal convalescent hospital. Patients move up from Brighton to Roehampton. Practically the same vocational courses are offered in each place, so that a man may go ahead steadily with his training, and make ready for more advanced work at a polytechnic. Among the subjects offered are shoemaking, wood-work-

ing, electric wiring and other inside electrical work, motor mechanics, diamond-cutting, and office practice. Of these the work in electricity, motor mechanics, diamond-cutting, and commercial subjects prepare directly for skilled employment. The other courses require further post-graduate training.

The Princess Louise Scottish Hospital at Erskine House, just outside Glasgow, is a comparatively recent Scottish equivalent of Brighton and Roehampton. About one-half of its 200 patients are undergoing convalescent treatment; the other half are sent here for a few weeks only, to be fitted with artificial limbs. There is a limb factory, which at present is run on a commercial basis and employs able-bodied workmen. The school purposes to teach the trade to war cripples. There are classes in cobbling, basket-weaving, and wood and leather embossing, and a plan to establish courses in electricity and to train crippled miners as mine inspectors. The committee administering the hospital has been able to buy the fine old mansion house which the hospital occupies, as well as 360 acres of ground, and plans are being made beyond the duration of the war.

Fig. 5. Having lost one leg and one arm, this French soldier has been fitted to guide a plow.

The Military Orthopedic Hospital at Shepherd's Bush, London, uses its shops not so much for definite technical training as for the curative value of the work itself. When the idea of curative workshops was first worked out at Shepherd's Bush, work was offered to the patients instead of gymnastic exercises. Out of 700 possible candidates for work, 640 accepted it. A list was made of each man's pre-war occupation and from this, shops were set up and equipped with machines and tools; as far as possible every man was employed at his own trade. The work given him was always adapted to the exercise his injury required. A soldier with a dropped foot found the right exercise working the treadle of a fret-saw machine. Another man, a tailor, with the same disability, was set to running a sewing machine. Most of the products turned out by the classes are for the hospital. The tailor shop makes the uniforms. The carpenter shop makes chairs, tables, and benches. The electrical class repairs the machines in the electrical department and the vibrators used in the massage department. Practically all the orthopedic appliances used at the hospital are made by the combined work of the leather workers, the blacksmiths, and the class for making artificial limbs. A number of men under the instruction of a non-commissioned officer have learned how to make cigarettes. Those who can purchase a cigarette-making machine at a small cost, can carry on a miniature independent business which will give them a livelihood. Another class has gained skill in the grinding of surgical instruments.

Military hospitals in Canada are under the control of the Military Hospitals Commission, a civilian body which has thoroughly organized the reconstruction work for disabled soldiers. All the hospitals have curative workshops, and complete technical training for a trade is offered to any war cripple who needs it. In many places, as in England, the more advanced work is given at a technical school or university. The military convalescent hospital in Montreal, popularly known as the Grey Nunnery, since before the war it was a hospital of the sisterhood of the Soeurs Grises, shows how the Canadian system works. In the hospital itself are elementary classes, courses in preparation for the civil service examinations, commercial classes, and shops for carpentry and

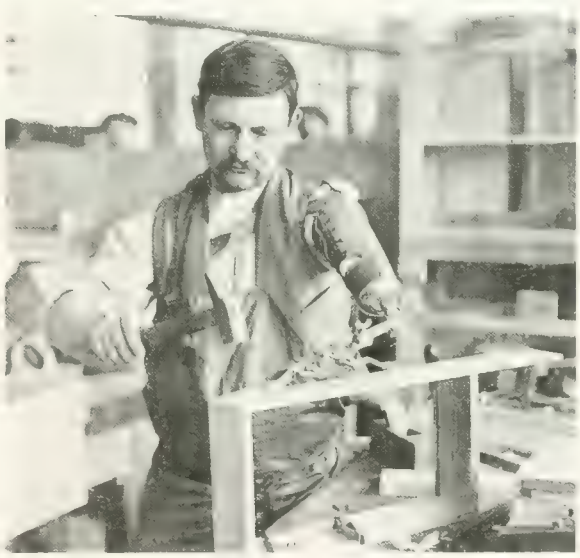


Fig. 6. A war cripple in Paris preparing for employment as a cabinet-maker.

shoemaking. Both these shops fill orders, and the pupils are paid their share of the profit. In six months a man is trained to earn a living by doing simple repairing or carpentry. For advanced trade courses the men are sent either to the machine shops at McGill University, where chipping, filing, and bench work are taught, or to the Montreal Technical School, where they train as carpenters, motor mechanics, and architectural workers. About 140 men were attending these classes

Fig. 7. Both arms off, but mechanically fitted and reeducationally trained for bookkeeping.

at the last report. All through Canada there has been a rush of war cripples to enter the courses in motor mechanics, and gas engineering. They have had to be restricted, to keep the balance of labor steady. But the fact that the men like this work goes to prove that the war cripple does not turn mollycoddle after his accident. Give him a choice of jobs and he will not chose the easiest, once his courage has been bucked.

The hospital school at Milan, the most extensive in Italy, was started immediately after Italy's entrance into the war and was modeled on the best French schools. The government pays regular board for the maintenance of the 700 patients, bears the expenses for artificial limbs, and allows each crippled soldier 20 cents a day for his work. The departments of the institution are the hospital proper, the elementary and commercial school, and the trade training school.

As soon as a patient is ready to begin training he is given a preliminary elementary examination in general educational subjects, and those who need it are taught to read and write. Many of the soldiers are peasants, and this is their first effort at book-learning.

After the men have been supplied with artificial limbs they are put through a series of laboratory tests to determine their working capacity. They are then given their choice of a trade, subject to expert advice. Since most of them come from little villages, trades must be chosen which are in demand at home and which can be practiced with small outlay. The trade-courses given are carpentry, tailoring, shoemaking, basketry, leather work, saddlery, wood-carving, wood inlay, the making of wooden shoes, broom-making and brush-making, mechanics, and orthopedic shoemaking. The trade-school is located in the suburbs of Milan and has large grounds, making possible courses in farming, poultry raising, bee-keeping, and dairy work.

The commercial course trains first for such simple commercial positions as shop clerk, hotel por-

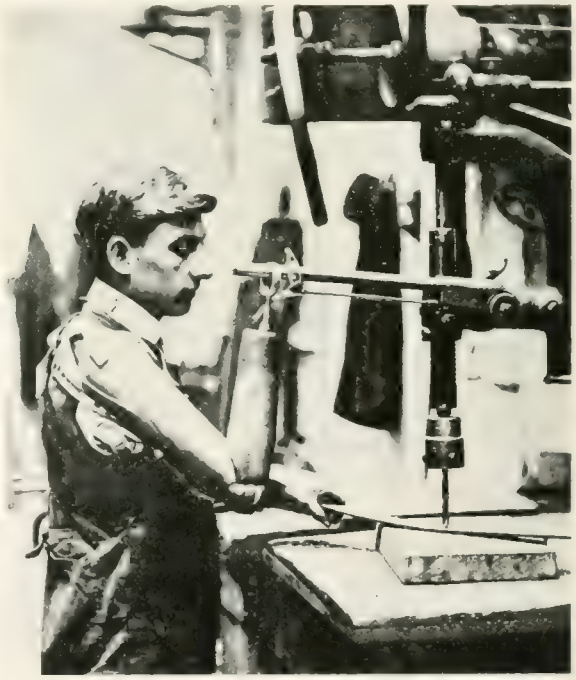


Fig. 8. Amputated at the shoulder, this English soldier is still rendering national service in the making of submarine fittings.

ter, or steward. A higher course prepares bookkeepers and stenographers. Besides these are special courses for postal and telegraph employees. A beginning has been made at teaching practical designing, for which there is a good field in the factories of Milan.

A typical German school is that of the Royal Orthopedic Reserve Hospital at Nuremberg, which has accommodation for 900 men. Three buildings of the Sebastian Hospital were taken over at the beginning of the war, class-rooms and twelve workshops were equipped, and a piece of land secured for training in agriculture. As in all German schools, a strong effort is made to fit the

patient back into his old trade, or to put one-armed men to work on the land. A special class for one-armed men gives them such hand-training as will overcome most of their disability. Wherever possible, crippled teachers have been selected for this school.

The courses train shoemakers, blacksmiths, locksmiths, makers of artificial limbs, printers, bookbinders, cabinet-makers, tailors, weavers, brush-makers, and designers.

The blacksmiths, locksmiths, and limb-makers combined make orthopedic appliances for the hospital: wrist bands for radial paralysis, celluloid

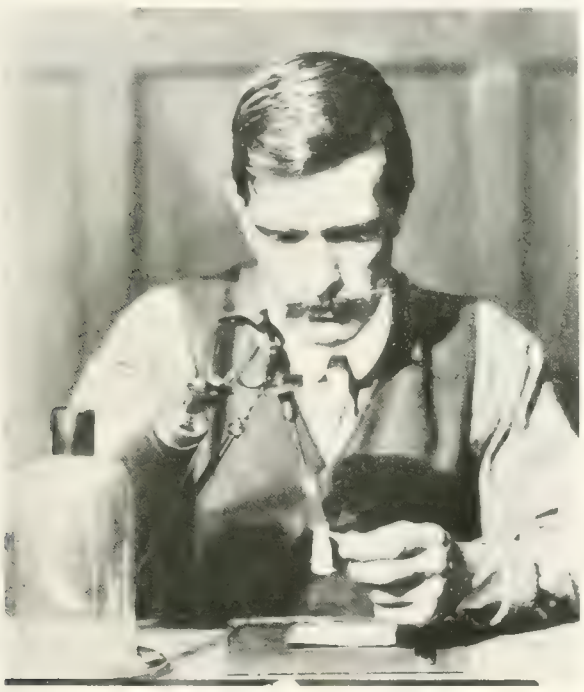


Fig. 9. An English soldier being trained as a laboratory attendant. He is attaching gold leaves to an electroscope, holding his work with an adjustable hook.

casings and braces from plaster casts. They also repair artificial limbs. The blacksmiths and locksmiths also make all tools required for the farm courses, and produce angle-irons, pipe-elbows, oil pumps, etc., to order. Money received for orders is turned into a fund to further work for war cripples.

Dr. Bruno Valentin, in a report on this school, tells how the men if left to themselves find ways of performing the work processes in which they were skillful before the war. A tailor could move only the thumb and forefinger of his working hand; the other fingers were bent down to his palm and his wrist was rigidly contracted. Nevertheless he found a way to handle his tools and keep on with his trade. Another man who had worked in an electrical plant was given work by this plant, while he was at the hospital, making parts for reflector arc lamps. He was unable to open his fingers and had a stiff elbow, but guided the file with the ball of his thumb and suffered only a small loss of efficiency.

Provision as adequate as that made for the war cripples of any of the other belligerent countries is being planned for the crippled soldiers of the American forces. The government has announced its intention to erect every necessary facility to ensure the rehabilitation of our disabled men and prevent their being in any way dependent on private charity. The Surgeon General of the Army is organizing reconstruction hospitals in which training shops will supplement the work of the medical staff. To provide specialized vocational education there will soon be created by Congress an interdepartmental commission. And lastly there will be established individual industrial schools for cripples which will assist in the execution of the national plan, by offering the use of special equipment and the services of an expert staff.

With the European experience ahead of us, the United States can acquit herself creditably only by improving on the work which has gone before. For the crippled men of the American forces we must break down the barriers of disability and put them back into civilian life as independent, respected, and useful members of the community.

St. Thomas's Hospital Speech Clinic

The speech clinic at St. Thomas's Hospital was established in March, 1914, and may now be considered to have passed out of the experimental stage, says *The Hospital*, London. It is linked up with all the other departments of the hospital, and has proved beyond doubt that its value is greatly enhanced by this connection. There are generally about fifty children attending the classes, and they are divided into seven groups: (1) senior boys; (2) junior boys; (3) girls (stammerers); (4) lispers; (5) chest cases; (6) mentally deficient in speech only; (7) cleft palate cases. Among these have been several cases of "aid-shocked children completely dumb, who have recovered through relaxation and reeducative exercises. Some interesting cases of voice and speech failure after severe internal operations, or after an accident, have given excellent results. Among the group of lispers are some cases of a form of lisping or lalling due to extreme nervous tension. They yield to very much the same form of treatment as stammering, but are among the most difficult of all to reach. Ordinary speech exercises only make matters worse. A group of little people who have never learnt to speak, despite ingenious efforts on the part of their families, begin to improve almost at once, and very soon take a keen interest in mothering the latest arrival and starting it on the path of progress. In one or two bad cases of cleft palate small children have been so discouraged by their failure to articulate clearly that they remain practically speechless, and grow awkward and sulky when they are corrected. These require an infinite amount of gentle and patient treatment.

THE ADMITTING SYSTEM IN USE AT THE MILWAUKEE CHILDREN'S HOSPITAL

Social Service Department in Charge of Admitting System—Advantages of Method—Satisfaction to Patients, Physicians, and Donors Through Increased Efficiency and Thoroughness

By HARRIET GAGE, Director of the Social Service Department of the Milwaukee Children's Hospital

NATURE AND SIZE OF HOSPITAL

THE Milwaukee Children's Hospital is a private charitable institution of sixty beds for the treatment of children's general diseases. The hospital has an out-patient department with daily clinics covering all departments of medicine. The various clinics are held at 8, 10, and 11 o'clock. There is a daily average attendance of thirty-two; the average number of new patients per day is seven.

OLD WAY OF ADMITTING

Up to September, 1916, patients were admitted as they are in most dispensaries and free hospitals, with only a surface questioning. Lack of time and lack of an experienced social investigator made more than this impossible. There had long been a feeling on the part of the administration that the efficiency and thoroughness of the medical care given demanded like qualities in the work of admitting. There was also a very natural questioning on the part of the staff and of other physicians in the city as to whether the hospital was really reaching those who most needed its help.

PRESENT SYSTEM OF ADMITTING—A FUNCTION OF THE SOCIAL SERVICE DEPARTMENT

In September, 1916, the admitting of new patients to wards and out-patient department, i. e., the decision as to their suitability or non-suitability for treatment, and the setting of hospital fees, if any, was made a function of the social service department. The work was placed in this department because the thoroughness of the new system called for social experience as well as some familiarity with medical work, the decision being based upon both social and medical data in each case. With a social worker at the registration desk it was thought, too, that much valuable information might be obtained and passed on to the physicians at the time of the patient's first examination. Also, the discovery of social needs during admitting would help the social service department to extend its usefulness.

Surname _____ Date _____

Address _____

O. P. D. No. _____ Household _____ Age _____ Employ _____ Earnings _____

Boarders or other income

Rent _____ Rooms _____ Landlord _____

Insurance _____ Car fare _____ Budget _____

Debts

Referred by _____ Family Physician

Relatives

Registration

Hosp. fee

Remarks (Over)

Form of registration card used in the Milwaukee Children's Hospital; actual size.

REGISTRATION

After the admitting clerk has filled out the identification data on the cross-file card and on the medical record, the record is sent into the

proper clinic and the adult accompanying the patient is sent to the registration desk. This is placed in an office where there is quiet and privacy. The interview at this desk may take anywhere from five to twenty-five minutes, according to the complications of the social situation, language difficulty, initial reticence, etc. It is never hurried. If it cannot be completed before examination, it is completed afterwards.

FORM OF REGISTRATION CARD

The registration card used is shown in the illustration. This is a buff-colored, thin pasteboard measuring 4 by 6 inches. The back is blank for continuation of remarks. If the patient is asked to seek private medical care, the explanation of the disposition of the case is written in red ink. "Registration" on the card refers to the Confidential Exchange of Information, the central bureau with which all the city's social agencies and several of its medical agencies register all their cases. The returns from this registration are most valuable. For example, if the tuberculosis division of the board of health knows a patient's family, it is often possible to get to the physician information concerning the physical condition of other members of the household, or even a previous history of the patient himself, as an aid in diagnosis and plan of treatment.

STANDARDS OF ADMISSION

The standards of admission used at the Washington University Dispensary at St. Louis have been adopted. The following four groups have been considered suitable for admission:

A. Those financially unable to pay for medical services, who are suitable for admission for any condition at any time.

B. Those suitable for temporary admission because of financial disability.

C. Those suitable for admission for certain specialists' services or for chronic illness, but unsuitable for minor conditions.

D. Those referred for consultation by private physicians who send word that the patients are unable to pay consultation fees.

The scale of incomes made for the Washington University Dispensary has been used as a basis for determining the suitability of patients for admission.[1] These tables cannot, of course, be followed absolutely, as allowances must be made for difference in the character of communities, nationality of patients, changes in the cost of living, labor conditions, etc.

The financial situation is thoroughly investigated if there is doubt as to suitability for admission. The investigation includes consultation with other social agencies if it is found that the patient's family is known to them, verification of wages, consultation with family physician, home visits if necessary, and in a few cases the checking up of statements through public records of property owned. After a medical examination, which is never refused to any patient, *the finances are considered in relation to the treatment required and its approximate cost by a private physician.* Every patient who is asked to consult a private physician (if he has no family physician to advise him) is given a list of the medical staff of the department in which he would be treated were he a dispensary case.

A note is clipped to the medical record of each excluded patient, asking that he be sent to the registration desk should he again apply for treatment.

A note is attached also to the medical history of each patient in Groups B, C, and D, asking that he be referred again to the registrar when the medical service for which he was admitted, has been rendered. He is then given a list of physicians, or is sent back to his family physician, and a note is clipped to the medical record as in the case of the excluded patient. If he return at any time he will be reregistered and his admission will be considered in the light of a new ailment and perhaps a changed financial situation.

REREGISTRATION

Patients are to be reregistered once a year, or oftener in special cases. The name of each patient is listed under the date of registration. On the first of each month the list is consulted for the names of those patients who were registered one year previous. A rubber stamp reading "To be reregistered" is placed on the medical record, and upon the first visit thereafter the patient is referred to the registrar.

STATISTICS

For the year during which this system of admitting has been in operation, 1,563 new patients have been registered at the out-patient department and 186 at the hospital. There were no exclusions from the hospital. Of the out-patients, sixty-four, or 4.09 percent were excluded from all treatment; ten of these were sent back to their family physicians, fifty-one were referred to other physicians, and three were excluded after examination with no treatment necessary. There were seventeen partial exclusions—patients of Group C—and two patients of Group D. Exclusions are never final; the patient's parents are always made

[1] Veeder, Borden S.: Standards for Determining the Suitability of Patients for Admission to a Free Dispensary. Jour. Am. Med. Assn., V. LXVII, No. 2.

to feel that the hospital is ready at any time to go over again the question of suitability for treatment, and they are asked to return should they have financial reverses.

HOSPITAL FEES

The setting of fees does not enter into outpatient department admissions, as the charge per visit is 10 cents or nothing, the fee being remitted at the discretion of the registrar.

The decision as to the hospital fee is based upon the facts obtained through registration considered in the light of the probable length of stay. Of the 719 patients receiving hospital care during the year under consideration 75 percent were charged no fee. The weekly fee in some cases is as low as 50 cents. It is only in exceptional cases that the cost of the child's board is covered and no charge is ever made for the medical and surgical care.

ADVANTAGES OF THIS SYSTEM OF ADMITTING

1. An increased respect for the institution among the families of its patients as a place where truthful statements are demanded and where one is treated fairly.

2. A feeling of friendliness between the hospital and the patient's family established at the very beginning of their relationship.

3. The satisfaction to the staff of knowing that every patient who is admitted for treatment is in need of their free services. No physician questions a patient's financial circumstances in the ward or the clinic. If there should be any doubt in his mind as to suitability for admission, he has only to ask the registrar for the results of her inquiries, and then, if not satisfied, for another investigation.

4. An aid to the physician by furnishing medical and social information, helpful in diagnosis and plan for treatment.

5. A feeling of confidence on the part of physicians not on the staff that the hospital is treating only those unable to pay a physician's fee.

6. The satisfaction to donors to the hospital that their gifts are reaching those in need of help.

7. An increase in the receipts of the hospital from patients because the fixing and collecting of fees is on a sound basis.

8. A revealing of social situations in need of attention from the social service department, and a valuable means of social approach to the patient's family.

I think we should be bored to death with the regular course of the seasons were it not for the whimsicality of the weather. That saves us from suicide.—James Russell Lowell.

A SMALL DEMOCRACY IN AN INSANE WARD

An Inmate of the Watertown State Hospital Describes an Organization for Self-Government in One of the Wards

The *Institution Quarterly*, the official organ of the Public Welfare Service of Illinois, publishes in a recent issue the following little article written by an inmate of the Watertown State Hospital describing the manner in which one unit at the Watertown State Hospital is conducted by the patients themselves.

"At the Watertown State Hospital, under the surveillance and encouragement of the hospital administration, one will find setting a little removed in the background a wooden and cement building with a capacity of seventy-five inmates, Ward B-4, a true democracy at present writing.

"There are two vacancies, therefore seventy-three inmates, that are as nearly governing themselves with due respect to the rules of the institution as can be possible. Of course the shaving and hair-cutting is attended to by an employee, specialized for that class of work. A ward council composed of about six of the most trustworthy patients administer the detailed affairs of the ward. Cleanliness and sanitary conditions are a paramount issue. Some work in the dining room, some in the kitchen or are detailed upon the grounds, etc. In the summer a spacious front porch finds a good many enjoying the open air in the gloaming. Many a hot debate on war affairs has taken place here. Some of the boys read the newspapers and keep in touch with the affairs of the world. There are games of pastime. Ring-throwing furnishes a chance for animated competition. In the winter there is card-playing. A billiard table has done much to develop talent in that line. Some have become quite expert and the games would if witnessed arouse the interest of the professional manipulator of the cue.

"One of the inmates plays the piano fairly well and thus furnishes music occasionally during the evening hours of relaxation. The emancipation and initiation of the American citizen has a place here. Any individual suggestion pertaining to the ward affairs are discussed in the ward council. Irregularities, breaches of ordinary propriety of any inmate come under the ban of council deliberation.

"At a certain hour in the evening the hospital whistle blows and all must turn in. This ward has half an hour's grace. At 8:30 p. m. one of the council members makes the rounds of the dormitories to see whether all are in. The doors are being shut, but not locked, the lights nearly all turned off; ten minutes later all is quiet. The nights on the ward are almost invariably quiet and orderly. A sudden attack of sickness or symptoms of bodily ailment are promptly brought to the attention of the ward or emergency doctor.

"The wearing apparel comes under the inspection of the clothes man, generally one of the most trustworthy inmates. He in turn consults the executive members of the ward council, who does the ordering of the new garments needed, shoes, hats, etc. An air of mutual respect, fraternity, and equality pervades the ward which is most apparent to a newcomer joining the ward, whom it doesn't take long to single out congenial companionship. A large percent of the men are pretty well along in years and in conversation at different times it is noticeable that they feel perfectly resigned to their lot and expect to end their days here in the institution."

A man behind the times is apt to speak ill of them on the principle that nothing looks well from behind.—Heine.

STANDARDIZATION OF HOSPITALS—CLASS XVII, INFECTIOUS-DISEASE HOSPITALS

Principles Governing the Planning of Hospitals for Communicable Diseases—Preventing Direct Contact Between the Infected and Uninfected—Technic of Care

By JOHN A. HORNSBY, M. D., Chicago, in Collaboration with MISS MARY WHEELER, Principal of the Illinois Training School, Chicago; DR. SOLOMON STROUSE, Former Pathologist in and now Member of the Medical Staff, Michael Reese Hospital, Chicago; MISS RENA S. ECKMAN, Former Dietitian, Massachusetts General Hospital, now of Teachers College, Columbia University, New York; DR. J. T. CASE, Roentgenologist, Battle Creek, Mich.; DR. EDWARD S. BLAINE, Roentgenologist, Cook County Hospital, Chicago; MR. E. C. LARSON, Former Accountant, now Assistant Superintendent, Michael Reese Hospital, Chicago; MR. MICHAEL M. DAVIS, Jr., Director, Boston Dispensary, Boston, Mass.

IT is not so long since infectious-disease hospitals were called "pesthouses," and it is within the memory of most of us when these institutions were set away on islands or other places far away from human habitations; and even today many enlightened communities would protest vigorously, call public meetings, and pass resolutions without end to prevent the location of an infectious-disease hospital anywhere in their neighborhood. And yet the modern infectious-disease hospital is probably the most sanitary and the cleanest institution that we have, just as the hospital laboratory, which is supposed to harbor micro-organisms of all kinds, is probably freer from these organisms than any other part of the institution.

We got our original ideas about "pesthouses" from the Orientals, whose manner of treatment of communicable diseases was to throw those afflicted into some far out-of-the-way building and leave them there alone, to get well or die, as Providence willed. That was in the days before vaccination and when smallpox and "the plague" carried away whole communities—indeed, almost whole nations—in an epidemic.

We have probably gone further in the prevention and treatment of communicable diseases as a practical public health measure than we have in any other direction. Smallpox, of course, ceased, with vaccination, to be a factor in enlightened communities. We now know where "the plague" comes from, its method of transfer or communication, and every public health service in the world is on the trail of the flea that carries it. The antimeningitis serum has laid the ghost of the terrible spotted fever of other days. The Behring antitoxin has almost eliminated diphtheria, at least when there is intelligence enough in a community to make use of it. We have now found the mosquito that is responsible for yellow fever, and by disposing of him have practically eliminated that terrible disease of earlier days. The practical eradication of these chief offenders among the communicable diseases, has brought into bolder relief another group of infections whose importance comes largely from the fact that the far more formidable ones are no longer to be reckoned with—such diseases, for instance, as measles, scarlet fever, whooping cough, mumps, chicken-pox, and, perhaps in another way, pneumonia and typhoid fever.

PRINCIPLES OF ISOLATION

We know the sources of infection and the methods of communication of many of these communicable diseases and are able to plan against them by destroying or isolating the insects or sources of infection, and it just happens that the diseases that are giving us trouble in our communicable-disease institutions today are almost confined to those whose organisms have not been identified and isolated so that we can take measures against them.

It will not be necessary for us to go into many sources of infection of what we may call the institutional communicable diseases of today, except to lay down the broad principle that nearly all diseases are communicable by direct contact of the patient suffering from the disease with the receptive well person. At least we find that if we can isolate our cases so that patients do not come into direct contact with well people, we can prevent the continuance of the epidemic—indeed, we can prevent the occurrence of almost any secondary cases.

Therefore, when we talk about an institution for the housing of this class of patients we are thinking in terms of the prevention of direct contact. Direct contact does not mean that a patient with measles must rub up against a receptive well child; but direct contact does mean that the infecting material must be brought directly to the receptive person either by the patient suffering from it, or through the intermediary of the hands or materials used by doctors, nurses, etc.

We used to think a great deal about "air-borne" diseases; we have practically given that up, be-

cause, while it is barely within the bounds of possibility that the scales of an erysipelas case perhaps might be driven by the wind to an open wound which is not infected and which thus might become so, it is quite likely that very careful technical preparations would have to be made to bring about any such results; nothing of the kind will happen under ordinary conditions once in a million times. So that when we think about taking the necessary precautions to prevent the infection of well people by the sick, we have really only to deal with the problems of direct contact.

There are two fundamental ways of solving this problem of direct contact; one is by perfecting the segregation of patients in the architecture of the building so that patients, doctors, nurses, and attendants in one department cannot get into another department or out among the public without flagrantly violating some fundamental and simple rules; the other way is by confining the segregation to the technical administration of the institution, that is, by having patients, doctors, nurses, and attendants observe certain rather technical precautions.

In one institution in this country the technical segregation is employed, but in that institution there are two or three permanently employed physicians who do nothing else and go nowhere else, nurses who are trained year in and year out to do that work in that place and in a certain way, and attendants who are equally well trained and who are kept there over long periods of time.

This technical isolation is impossible in general hospitals, especially where doctors from the outside are allowed to practice in the institution in large numbers and where interns, nurses, and attendants rotate from department to department at short intervals. So we may dispose of this technical isolation by merely calling attention to its impracticability in most places and its undesirability in all cases.

The ideal of isolation is to perfect arrangements in the architecture of a building for the continuance of an absolute separation of each disease from every other disease, including all attendants. This can be easily done where a complete and separate building is to be erected solely for this purpose, but the methods by which the same ends can be attained in a general hospital where the communicable section is only a small part are not very generally understood, and most hospital administrators dread any attempt to conduct a communicable disease section.

But it is not at all difficult—indeed, it is very much simpler than it sounds—to take a wing of one floor of a general hospital, preferably, of course, a ground floor, because in such a situation we can have outside entrances which make it unnecessary to go through the rest of the house—entrances that can be used not only for people going in and out, but for the admission of food and the laundry and the taking away of soiled dishes and soiled linens. In a large metropolitan institution the top floor could be set aside with entire safety by maintaining one elevator exclusively for this department.

The simplest form of an isolation unit can be easily had in almost any small country hospital. This form we regard as quite as effective, if properly administered, as a far more elaborate arrangement. In this little unit we find a vestibule, which may be a room or only an alcove, in which there is running water for the doctors and nurses to wash their hands and put on and take off infected outer garments. We find at the other end a vestibule to which orderlies may bring food or clean linens, and from which soiled things may be taken away in safety. This simple unit would serve where only a few isolated cases which develop in the institution are to be reckoned with, or for the serving of a small community which does not have more than a few of these cases in the course of a year. These same plans may be elaborated ad infinitum, and the hundred-thousand-dollar building built especially for the purpose will not furnish more secure isolation, reckoning on ordinarily decent administration in the two cases.

In planning this simplest possible isolation unit we are thinking of only one of the communicable diseases at one time, and are providing for the prevention of the spread of this one disease to the outside or into the hospital. If it is desired to be ready for two or three of the diseases at one time, of course more space will be required and the form of isolation will have to be multiplied for each disease intended to be cared for.

In the general hospital the segregation of the communicable diseases of childhood is comparatively simple when that alone is to be considered. The trouble is that every once in a while a case of erysipelas or puerperal septicemia will either find its way into the hospital or develop there, and these are the hard cases to isolate satisfactorily, because the streptococcus micro-organism of these two diseases is long-lived and difficult to destroy, and the ordinary streptococcus infection of the surgical case is likely to develop into either one of these diseases (erysipelas or puerperal septicemia) and make all sorts of trouble.

The streptococci will live for a year or more in a room and may infect a case at almost any time, no matter how carefully we have cleaned up after the case that was there.

TECHNIC OF CARE OF INFECTIOUS CASES

There are some fundamental principles involved in the care of these cases. One is that the floors, walls, and ceilings must be so constructed that they can be scrubbed with soap and water, and there must be no rugs except those that can be boiled or put into a disinfector, no upholstered furniture of any kind, and there must be no ventilators that can carry air particles through flues or ducts to other parts of the institution. In other words, window ventilation is the best. After a case is over and it is desired to clean up the place, it must be thoroughly scrubbed out with warm water and green soap. The mattresses, which must be curled hair, because they are the only kind that can be disinfected, must be put into a disinfector or soaked in carbolic water, and all rugs, blankets and tapestries must be treated likewise. Bed and furniture must be scrubbed with warm water and green soap. This is the only way to clean an infected room or suite, and in marking a hospital for the purpose of this standardization the fact ought to be developed whether this kind of technical treatment is possible, and where it is not possible premises will not be acceptable.

Another fundamental necessity for an isolation unit is that there shall be a technic by which doctors, nurses, and attendants wear an outer garment, washable in character, covering all the clothing, rubber gloves, and a head and face cover. The technic should include the time and place for the putting on of these garments and for their removal, with washing of the hands and face before the person leaves the infected premises. This technic should also include the preparation of infected material that is to be taken out of the premises by an orderly through the external exit. Infected linens should be put into a clean bag, if they are to be disinfected, in the vestibule before the removal. They will be safer if soaked in a 3 percent carbolic solution over night in a large bag, the whole of which can be removed to the regular laundry the next morning. Soiled dishes can be disinfected in the same way and removed by the orderly under appropriate technic, by which the orderly's hands do not come in contact with the handle of the container that has been handled by the nurse, unless the nurse herself is taught a precautionary technic by which she puts on clean gloves before touching the outside of the container.

THE MEDICAL AND NURSING STAFF

Complications of all sorts arise in connection with communicable diseases, and specialists in the various departments are often needed for counsel by the regular medical attendant. Unless these specialists have been thoroughly trained in the technic of the service, they are liable to infect everything they touch; therefore the medical attendant or the head nurse should supervise the consulting physician's entrance and exit, showing him each step of the precautionary operations. And as to the drilling of the doctors who enter the department the medical staff problem is a very simple one, except as it occasionally happens that a patient suffering from one of the communicable diseases has to undergo a surgical operation, in which case it will be better to bring a surgical outfit, including table and instruments, into the department rather than take the chance of having the patient infect the whole hospital through the regular surgical suite.

Every communicable disease department or unit ought to have a trained graduate nurse in charge, who, when there is a communicable disease to be cared for, can be devoted for this work exclusively. There is an opportunity for the training of pupil nurses in this department that should not be overlooked, but this training should be done under the direction and should be personally given by a graduate nurse who knows her business.

THE PATHOLOGIC LABORATORY

Every communicable disease unit, no matter how small, should have a certain amount of laboratory equipment. It can be confined to the equipment essential to the culture of the various forms of micro-organisms. Oftentimes a case that looks very much like diphtheria will take on a new aspect and may become a streptococcus sore throat, or a case that may look like one of the exanthemata may develop into another, or may be some other sort of rash that can be identified later. This bacteriological equipment is very simple and inexpensive; the main thing is to have some one in charge who knows his bacteriology.

The other factors to be considered in thinking about the communicable disease hospital do not differ in any way from similar features in other classes of hospitals. The communicable-disease hospital can be marked in the same way that other hospitals are marked, excepting in the features indicated above.

THE MECHANICAL EQUIPMENT OF MONTEFIORE HOME AND HOSPITAL

An Efficient, Practical, and Economical Plant, Meeting Recent Demands in an Up-to-Date Way—Soft Coal and Anthracite Screenings Burned in a Smokeless Furnace

By A. M. FELDMAN, Consulting Engineer, New York.

THE Montefiore Home and Hospital is located in the Borough of the Bronx, New York, bounded by Gun Hill Road, Two Hundred and Tenth Street, and Steuben and Wayne Avenues, covering three and a half city blocks. The avenue between Steuben and Woodlawn Avenues was closed up by special grant from the city, and the private pavilion, which is located on the block east of Woodlawn Avenue, is connected with the main group of buildings by means of a tunnel. The main group of buildings comprises an administration building, four patients' pavilions (central, medical, surgical, and tuberculosis), helps' dormitory, a service building, and synagogue. The hospital also owns parts of two blocks south of Two Hundred and Tenth Street, and another whole block east of Wayne Avenue. On the block south of Two Hundred and Tenth Street is located the medical director's house.

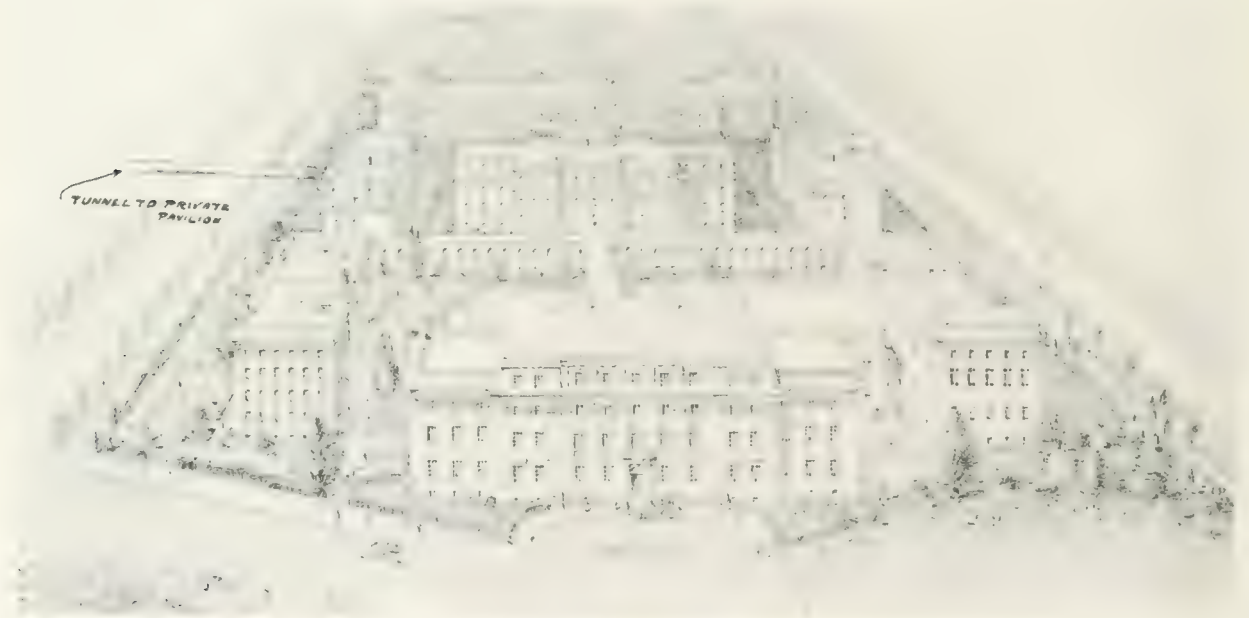


Fig. 1. New Montefiore Home.

The general construction of the buildings is fireproof. The skeletons of the buildings—the foundations, columns, girders, and floor beams—are reinforced concrete. The walls are of hollow tiles, trimmed with tapestry brick and white limestone.

The cubic contents of the main group of buildings, exclusive of the private pavilion, are over 5,400,000 cubic feet; those of the private pavilion are 543,200 cubic feet.

All the buildings are connected with inclosed corridors through basements and first floors. The second stories are connected through the flat roofs of the corridors. The connecting tunnels under the corridors are used for carrying the pipes and electric cables.

The hospital has its own isolated power plant located in the subbasement of the service building.

BOILERS

There are four Heine safety water tube boilers, 250 horse-power each, equipped with Murphy automatic smokeless furnaces, in which soft coal is burned. For the past two years a mixture of soft coal and anthracite screenings has been successfully burned. Because the Montefiore Home plant is equipped with smokeless and automatic stokers in the boilers, it was better off than any of the other hospitals this winter, since it was not inconvenienced in burning the poorer grades of coal obtainable. The coal bunker has a capacity for storing about 1700 tons of coal, which is fed to the furnaces by means of an overhead monorail coal-handling system; the bucket is raised to the top of the boiler furnaces by means of an electric

motor. The coal fed to the furnaces is weighed in an overhead track scale, the beam of which is fixed on the wall at a convenient height for the fireman to adjust the weight and take readings.

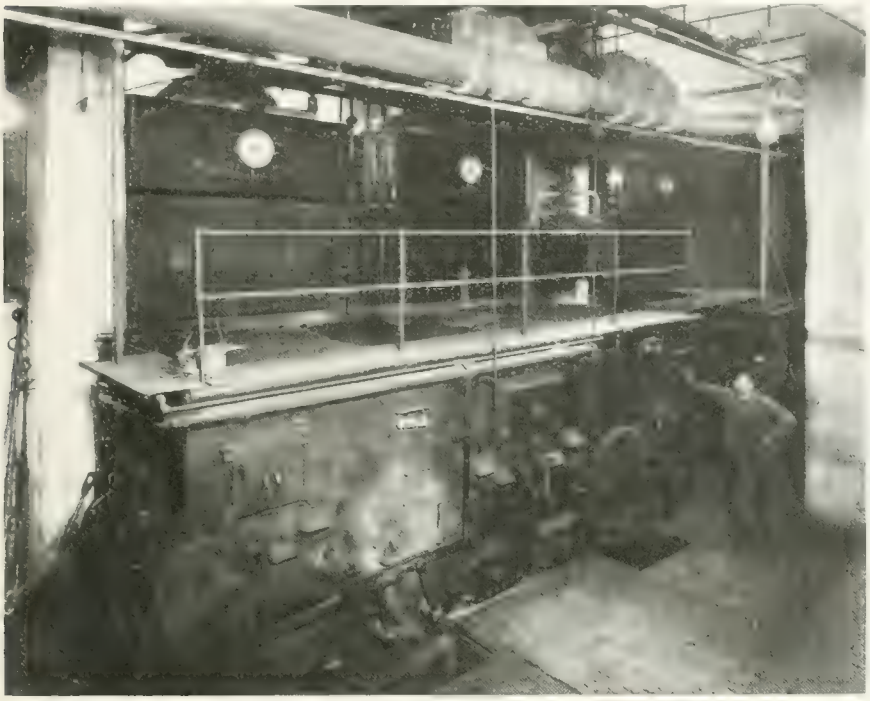


Fig. 2. Boilers and automatic smokeless furnaces. Overhead coal conveying trolley.

The amount of water fed into the boilers is automatically recorded on a 3-inch Venturi indicating, recording, and integrating meter. There are also provided Bristol instruments for recording the temperature of the feed water as it leaves the feed water heater, the temperature of the flue gases, and the boiler steam pressure. The headers for distributing the steam for various purposes are of ferro-steel, cast in one piece, thus eliminating leaky joints of fittings.

ENGINES AND GENERATORS

The electric generating plant consists of three 100 horsepower high-efficiency Corliss nonreleasing four-valve type engines direct connected each to a 75-kilowatt three-wire, 250/125-volt generator. A foundation, with foundation bolts covered over with floor tiling, is built for a future fourth engine.

STORAGE BATTERY

An electric storage battery is installed to handle the summer night load; also all year around, the electric elevator in the private pavilion. The latter connection was made to prevent the effect on the fluctuations of the voltage due to starting an elevator motor, which would have been detrimental to x-ray work.

The low-voltage system, such as fire alarms, self-winding clocks, annunciators, push buttons, silent-call system, etc., are operated by a special low-voltage storage battery, located in the same room with the large battery.

The battery room is especially well ventilated and lighted. A solid bronze multivane fan exhausts the gases generated when the batteries are charged. Air is admitted through a bronze register in the lower panel of the entrance door from the engine room.

HEATING

The heating of all buildings is accomplished by means of forced hot-water circulation. All the exhaust from the engines and pumps is utilized for heating the water, supplemented in very cold weather by live steam through a pressure-reducing valve.

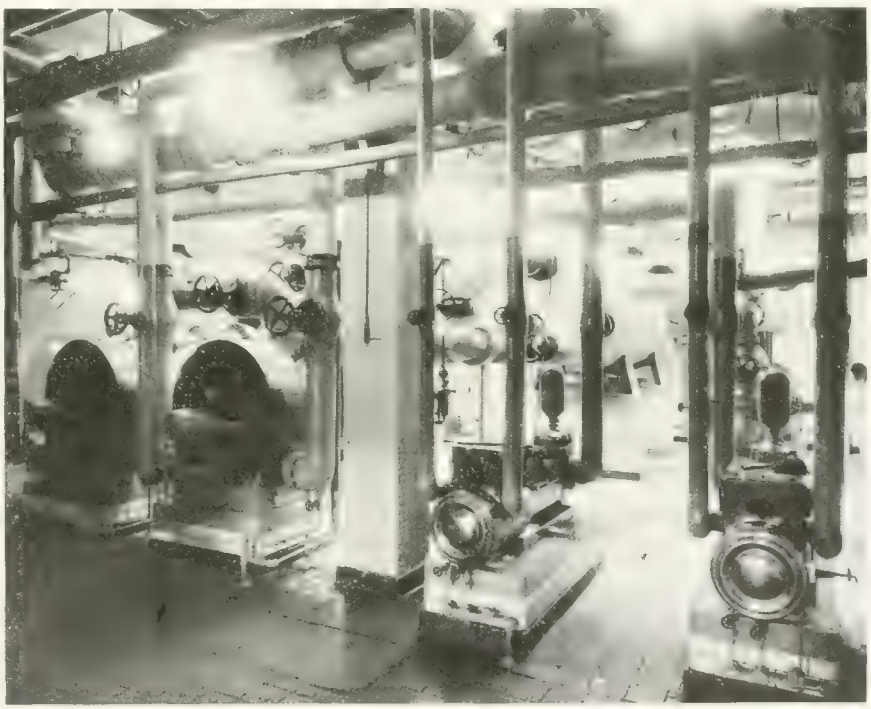


Fig. 3. Turbine-driven pumps for circulating the hot water for heating the buildings; also circulating pumps for the service hot water. The hot water generators are shown in the rear.

The system of piping consists of overhead supplies in the attics or furred ceiling spaces of the individual building, with down-feed single pipe risers, radiators connected on a shunt to the risers. All the risers are connected by return mains under the ceilings of basements. The basement radiators and coils are fed on shunt from these returns. All radiators are without legs and hung on wall brackets 6 inches off the floor and about 5 inches away from the walls. The standard "Peerless" plain surface radiator patterns were changed specially for this job, in accordance with the requirements of the specification, by removing the ridges and rounding off the edges, so that the radiators present perfectly rounded, smooth surfaces. The radiator sections are connected on 3-inch centers.

Fig. 4. Sterilizing equipment for operating rooms.

The plant has been in successful operation for four heating seasons. The temperature in the rooms and wards is maintained uniformly at between 68° and 70° F. without the necessity of manipulating individual radiator valves. This is accomplished by the engineer in the power plant, who regulates the temperature of the water in the hot-water generator in accordance with the out-door conditions.

The engineer has at his disposal recording thermometers which register the out-door temperature and that of the circulating water, on both the flow and the return. He is following a chart of temperatures which was originally prepared by the consulting engineer and very slightly modified by the supervising engineer. The buildings are never overheated in mild weather, as is the case with steam heating.

The water is forced through the heating system by a turbine-driven centrifugal pump, in duplicate, of a capacity of 1700 gallons per minute against a head of 70 feet.

The amount of heating units, and thereby the consumption of coal accounted for the heating of the entire group of buildings and the private pavilion separately, is recorded by means of Venturi recording, registering, and integrating meters and recording thermometers on the flow and return mains, avoiding uncertainties as to conditions.

Fig. 5. Hydrotherapy room.

VENTILATION

The ventilation of all the buildings was designed to meet the up-to-date ideas prevalent among physicians and hospital experts, who advocate keeping windows open. With that end in view a system

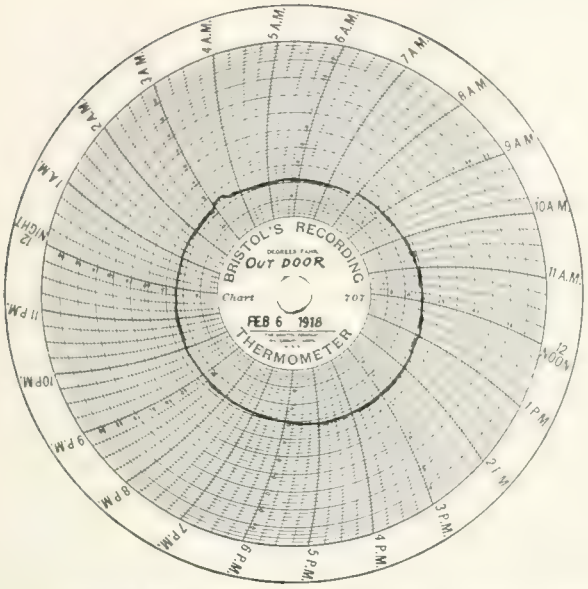


Fig. 6. Recording gauge showing twenty-four hours' record of temperature of flow water February 6, 1918.

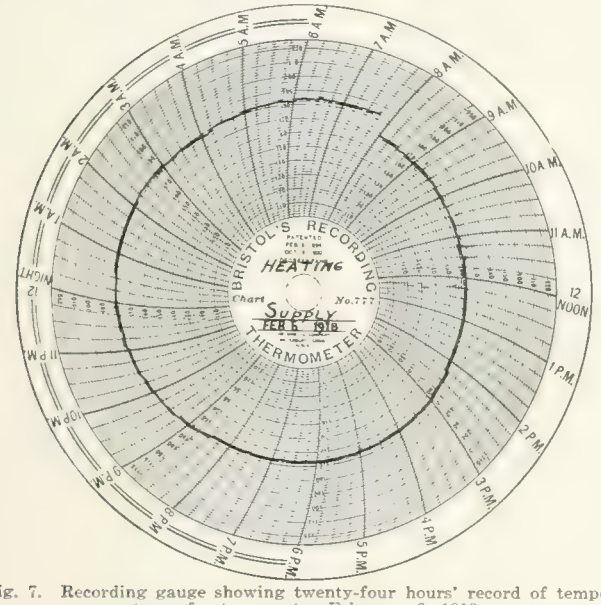


Fig. 7. Recording gauge showing twenty-four hours' record of temperature of return water February 6, 1918.

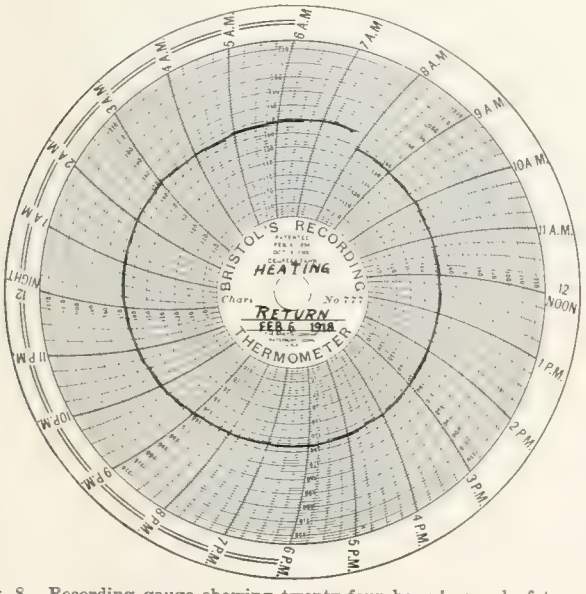


Fig. 8. Recording gauge showing twenty-four hours' record of temperature of heating supply February 6, 1918.

of exhaust ventilation was provided in all the wards, day rooms, main halls, pantries, toilets, etc., and in the principal rooms in the administration building. Fresh air is admitted through open windows. The radiation was designed with an allowance for heating the fresh air. To provide for inclement weather when windows cannot be kept open, however, fresh temperate air is also supplied through a system of ducts and indirect "Vento" stacks, without fans. This is provided in the wards, day rooms, and assembly rooms. The energy for exhausting is supplied by aspirating steam risers in the ducts, which makes the ventilating system positive and more continuous than when fans are employed.

Exhaust fans are installed only to ventilate the main kitchen, laundry, patients' dining room, operating rooms, temple, electric storage battery room, and engine room. The latter has proved to be so cool and well aired that the fan is used only in emergencies.

The register faces for the ventilating system are of special sanitary design and hinged, so that the ducts behind can be reached for cleaning. There are no louvers in any of the registers, and therefore they cannot be shut off and ventilation interrupted. The entire aspirating system in each building is operated by a single valve, thus again eliminating possibilities of shutting off the steam and reducing the exhausting effect from any part of the building without depriving the entire building of ventilation, which, of course, would be detected. To the best of my knowledge this is the first installation on an extensive scale where the exhausting system of ventilation in a large hospital has been made exclusively by means of aspiration, and fool-proof. The results have proved very satisfactory.

As the hospital is removed from the congested districts of the city, and is adjacent on one side to Van Cortlandt Park and on the other to a large water reservoir, there is no nuisance from dust, dirt, and noise caused by the open windows.

PLUMBING

The plumbing fixtures were selected with great care to suit the various requirements. In most cases the existing standard designs were changed by the manufacturers to comply with the specified requirements for absolutely sanitary, smooth, round surfaces.

All the lavatories and sinks, including pantry alberine sinks, are hung on walls and partitions without legs, the backs of fixtures being keyed into the walls. The bath tubs and the large heavy sinks are supported from the floor on special vitre-

ous legs of smooth, round surfaces, with coved feet keyed into the floor. The legs under the bath tubs are 12 inches high, so that the nurses do not have to bend over too much to assist the patients.

REFRIGERATION

There are two complete refrigerating machines, each of 20 tons, of the absorption type using exhaust steam. The condensing water in the refrig-

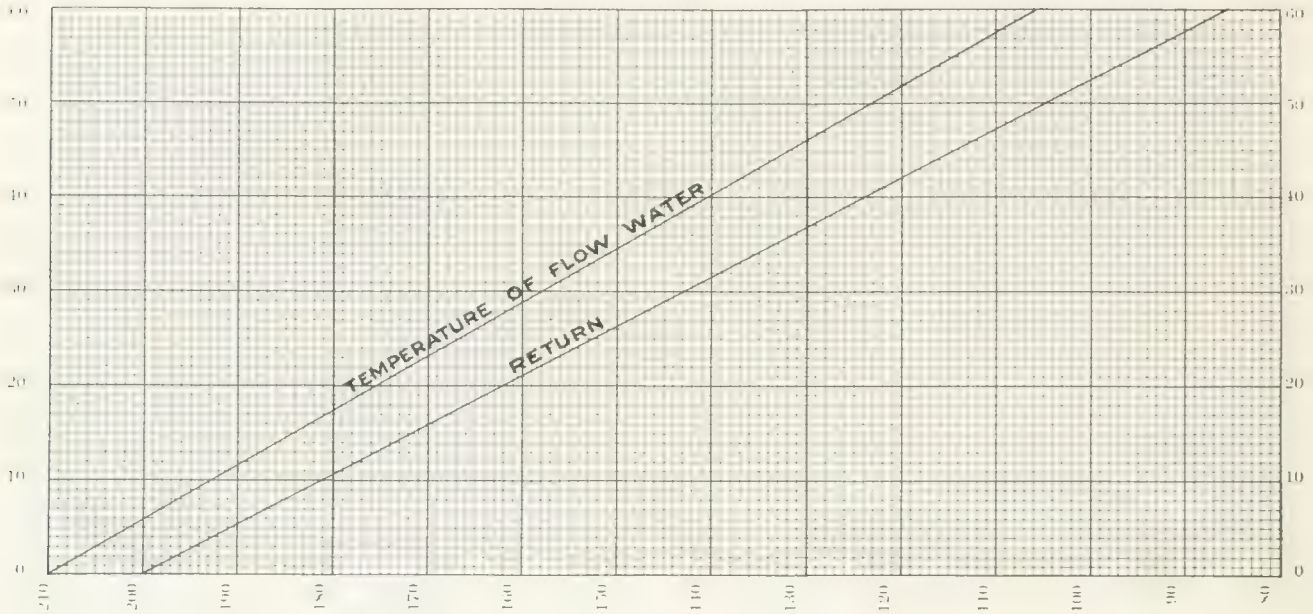


Fig. 9. Engine room chart for regulating the heating. Figures at the bottom of chart indicate temperature of water (degrees F.), and figures at the sides indicate outdoor temperature.

Bath tubs are set in the center of the bath rooms and the faucets are in the walls out of the patients' reach, so that they cannot accidentally scald themselves. The entire sterilizing equipment for operating rooms is also hung on wall brackets. Ranges, plate warmers, refrigerators, etc., are set on sanitary bases.

erating plant is not wasted to sewer, but is collected in a special steel tank, from which it is pumped into a heater for use in the laundry. All the refrigerators throughout the buildings are equipped with coil bunkers, through which brine is circulated by means of a pump. The interior of the refrigerators is lined with opal glass. The

HOSPITAL BUILDING	LOCATION	CUBIC FEET OF BUILDING	NUMBER OF PATIENTS	TOTAL RADIATION		VENTILATION		HEATING	BOILERS		COST OF HEAT & VENTIL. INCLUDING BOILERS, PUMPS, & PIPING IN POWER PLANT, LAUNDRY, KITCHEN, STERILIZERS, DUCTS		COAL. USED FOR GENERATING STEAM FOR ALL PURPOSES, INCLUDING HEATING, VENTILATING, LIGHTING, POWER, LAUNDRY, KITCHEN, STERILIZERS, HOT-WATER SERVICE AND REFRIGERATION.							ANNUAL COST OF COAL, LABOR, OIL AND WASTE. DOLLARS.		
				BY STEAM	BY HOT WATER	SUPPLY AND EXH. FANS	ASPIRATION		KIND & NUMBER OF UNITS	TOTAL HORSE POWER	TOTAL	PER CUBIC FOOT	KIND	COST PER GROSS TON AT MINE	TONS USED PER YEAR	TOTAL ANNUAL COST DOLLARS	% WHICH COST FOR PURIFICATION COST	ANNUAL COST FOR PURIFICATION DOLLARS	ANNUAL COST FOR ASH & LABOR DOLLARS	ANNUAL COST OF WATER, OILS, ETC. DOLLARS	ANNUAL COST OF ASHES AND WASTE DOLLARS	TOTAL	PER ONE MILLION CU FT	PER PATIENT
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
A		5,400,000	450	90,000	4818		YES			1000	136,850	.025			3730	4017	6907.4	2595.74	31.15	7092	274	21,383	3959.8	47.51
B		5723,600	500	42,000	710		NONE			900	220,000	.039			3306	6462	2318.115	1430.50	4.64	6744	400	28,462	4913.16	56.96
C		3,338,300	500	5800	337		NONE			450	24,795	.231			75	4,350	8,986.33	3917	2.54	1705	5280	256	14,062	4212.30	28.12
D		2,016,000	225	39,000	4610		NONE			440	56,461	.041			347	2437	8,450.1627	40.57	6.37	5500	486	4,445	683.70	64.20
E		1406,400	140	17,000	1200	NONE	NONE				30,000	.021			2,100	5,491.93	7.39	3.40	23.36	4030	78	9,517	6766.92	41.02
F		845,250	150	10,000	3000	NONE	NONE			364	48,595	.036			334	2,035.6	7.85	3.07	2.60	4.27	453	5015	223	2,535	934.07	33.56
G		1,125,000	150			NONE	NONE			60	26,452	.035			225	971	3253.4,600	40.64	6	20.35	3600	751	6,728	889.52	44.85

Fig. 10. Cost of installation and of operation of heating, ventilating, and power plants of seven hospitals. From data collected and compiled in 1915 by A. M. Feldman and C. E. Pearce.

A—Montefiore Home. Hydraulic plunger elevators; electric storage battery carries all night lighting load in summer, utilizing warmed condensing water from absorption refrigerating machine.

B—Absorption refrigerating machine.

C—Note lower price of coal in Pittsburgh.

D—Fractional admission valves on radiators; utilizing warmed condensing water from absorption refrigerating machine; ice cost, $790.

E—Buy electric current at an annual cost of $5,730; $24.70 per patient; ice costs $970; $3.30 per patient.

F—Buy ice at cost of $1,100; just installed compression ice making machine; indirect radiation not used.

G—Note lower price of coal in Buffalo.

large cold-storage room for meat is also of the overhead bunker type.

Filtered drinking water is cooled in a closed tank located in the refrigeration room and circulated to the drinking fountains, provided in the halls on all the floors of the buildings.

ELEVATORS

The elevators in all the buildings except the private pavilion are of the hydraulic plunger type. The tanks and pumps are located in the power plant; the distributing pipes are carried in the tunnels. The pumps, which are in duplicate, are of a high-efficiency compound type. They start and stop automatically with the starting and stopping of the elevators.

ILLUMINATION

To forestall any possibility of interruption of lighting due to temporary failure of the hospital plant, to blowing of a fuse, etc., half of the lights in the fixtures over the operating tables in the operating rooms are connected on an independent circuit to the Edison Company's street mains. Special switches are provided in the operating rooms whereby all the lights in the fixtures can be connected either to the street current or to the hospital plant.

KITCHEN AND LAUNDRY

The consulting engineer has given a great deal of assistance to the building committee in the design and arrangement of the fixtures in the kitchen and laundry. The two are considered models in their equipments.

It might be of interest to record that the soup and meat kettles are of solid nickel. While they were rather expensive in first cost, they proved great money-savers regarding maintenance as compared with the usual copper kettles, block tin-lined, the lining of which has to be quite often replaced.

The sanitary features carried through the entire equipment in the hospital have been given special attention in the kitchen with regard to round, smooth surfaces, sanitary legs for tables, etc. The range is set off the floor on a sanitary covered base, and the kettles in a well-drained depression in the floor.

In the laundry the apparatus has been arranged to the end that the material to be handled may move in one direction without cross-movement and interference of help with each other. The washers and wringers are individually motor-driven and automatically operated from a central panel board. All the ironing is done electrically, except the mangles, which have steam drums.

As chairman of a committee of the American Society of Heating and Ventilating Engineers, I have collected and tabulated data, which are herewith shown, from seven hospitals on the cost of installation and cost of operation of their heating, ventilating, and power plants. The fuel consumed and oil and waste used cover not only that required for the heating and ventilating, but also that for lighting, power, refrigeration, kitchen, laundry, sterilizers, hot water service, etc.

From the analysis of the data it appears unquestionably that the Montefiore Home and Hospital, which is designated on the table A, has the most economical plant, the coal consumption being the lowest, compared with the others on the basis of the number of tons and annual cost per million cubic feet of building, notwithstanding that it has the largest amount of radiation. The prices of coal, etc., were those prevalent during 1915.

Arnold W. Brunner and Buchman and Fox were the architects. The consultants were Dr. S. S. Goldwater, hospital specialist, Dr. S. Wachsmann, medical director of the Montefiore Home and Hospital, and A. M. Feldman, consulting engineer for the entire mechanical equipment.

Dressings of Turkish Toweling in Italian Military Hospitals

The Italian military hospitals are using white Turkish toweling as bandages, abdominal binders, dressings to cover drainage wounds, and pad dressings to absorb irrigations.

These dressings were designed by Dr. Barbetti of Florence, a well-known Italian surgeon. They consist of five standard bandage dressings, first, two strip bandages, one made 5½ by 59 inches and the other, 4 by 43 inches, which can be used for all ordinary bandaging of drainage wounds of the head and extremities.

The larger dressings are adjustable and are practical for abdominal binders and irrigation pad dressings for the body and upper extremities. The larger abdominal binder dressing is cut 42½ by 16 inches and has five tails, on each of which is sewed a tape. There is another cut 20 by 18 inches, also with five tails, and another 17 by 24 inches with four short tails taped. These may be used for lower limbs and arms, hands, feet, and head.

All the dressings are whipped around the edges to prevent raveling and have the advantage of being both washable and durable. They replace cotton and gauze, the price of which is prohibitive in Italy now, and can be made by volunteer labor.

Miss Annie W. Goodrich, president of the American Nurses' Association, assistant professor in the department of nursing and health, Teachers College, New York, and editor of the nursing department of THE MODERN HOSPITAL, has been appointed chief inspector of nurses of the army, both at home and abroad. Her assistant is Miss Elizabeth C. Burgess, now inspector of training schools of New York state.

BOOKKEEPING FOR SMALL HOSPITALS AND ALLIED INSTITUTIONS

Definitions, Rules, Forms, and Examples of Entries in Single and Double Entry Bookkeeping for Small Institutions

By HERBERT K. CARTER and CHARLES A. PORTER, of the Staff of The Modern Hospital.

[Continued from March issue.]

INVOICE BOOK

The customary Invoice Book is made up in the form of a scrap book. The book is divided into three sections—capital additions, expense, and miscellaneous.

Invoices are numbered in sequence, and classified as capital additions, expense, and miscellaneous items. These are next posted into the proper section of the Invoice Book, and totals are made up at the end of each month. The totals of these invoices for the month give the total of accounts payable. The separate invoices are posted to their respective accounts in the General Ledger.

The following example shows the use of the Invoice Book:

Items Bills posted in here		L. F.	Amounts
Johnson & Jackson	1	.....	$..... ....
Murdock, Brail & Co.	2	.....	$..... ....
L. L. Lewis	3	.....	$..... ....
Murphy & Potter	4	.....	$..... ....
Grimson & Stubbs	5	.....	$..... ....
Smith Produce Company	6	.....	$..... ....
Total			$..... ....

LEDGER

It will probably be necessary to keep the following ledger accounts for this system of double entry bookkeeping:

1. Cash.
2. Capital or proprietors' accounts.
3. Hospital land and buildings.
4. Equipment.
5. Mortgages receivable.
6. Notes receivable.
7. Investment accounts—Property or real estate.
8. Investment accounts—Bonds.
9. Interest.
10. Loss and gain.
11. Material.
12. Endowed Bed Fund.
13. General Endowment Fund.
14. Mortgages payable.
15. Notes payable.
16. Hospital earnings—Accounts receivable.
17. Accounts payable—Expense.
18. Overpayments by patients.
19. Personal accounts—Receivable.
20. Personal accounts—Payable.

Accounts may be opened with furniture and fixtures, ambulances, etc., if it is not desired to include them in the equipment account.

The following examples show how the ledger accounts are kept:

1

CASH

The Cash Book shows the cash balance at any and all times, making it unnecessary to carry a cash account in the Ledger.

2

CAPITAL ACCOUNT (HOSPITAL PROPERTY)

Dr.		Cr.	
Land and buildings	$.....	Total to date	$..... ....
Equipment	$.....	Land and buildings	$..... ....
For book value of sales as per Journal entry 8.		Equipment	$..... ....
Land and buildings	$.....	Capital expenditures as per Journal entry 7.	
Equipment	$.....	Land and buildings	$..... ....
For loss by fire or depreciation for month as per Journal entry 9.		Equipment	$..... ....
		For value of gifts capitalized as per Journal entry 7.	
Total	$.....	Total	$..... ....

Difference of totals equals capital account as shown on the Balance Sheet.

3

HOSPITAL LAND AND BUILDINGS

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Capital	$.....	Cash	$..... ....
For capital expenditures as per Journal entry 7.		For sales as per Cash Book.	
Capital	$.....	Mortgages receivable	$..... ....
For value of donations capitalized as per Journal entry 7.		For mortgages receivable received on account of sales.	
Loss and gain	$.....	Loss and gain	$..... ....
For profit on sale as per Journal entry 14.		For loss by fire or depreciation as per Journal entry 9.	
		Loss and gain	$..... ....
		For loss on sale as per Journal entry 12.	
Total	$.....	Total	$..... ....

The difference in the totals equals the value of hospital land and buildings.

4

EQUIPMENT

The equipment account is handled in the same manner as the preceding example.

5

MORTGAGES RECEIVABLE

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Cash	$.....	Cash	$..... ....
Purchases as per Cash Book.		For sales or payments as per Cash Book.	
Loss and gain	$.....	Loss and gain	$..... ....
For value of mortgages receivable, unrestricted, given to the hospital as per Journal entry 2.		For loss during months as per Journal entry 11.	
General Endowment Fund	$.....		
Endowed Bed Fund	$.....		
For value of mortgages given to the hospital, restricted, as per Journal entry 3.			
Land and buildings	$.....		
Equipment	$.....		
Investments	$.....		
For mortgages received on account of sales as per Journal entry 1.			
Total	$.....	Total	$..... ....

Difference of totals equals value of mortgages receivable.

BONDS

The bonds account is kept very similar to the preceding example.

6

NOTES RECEIVABLE

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Personal account concerned	$.....	Cash	$..... ....
For bills paid by note as per Journal entry 4.		For cash received on this account as per Cash Book.	
Notes receivable	$.....	Notes receivable	$..... ....
For renewals as per Journal entry 5.		For renewals as per Journal entry 5.	
		Loss and gain	$..... ....
		For uncollectable notes receivable charged off during the month as per Journal entry 13.	
Total	$.....	Total	$..... ....

The difference in the totals equals notes receivable.

7

INVESTMENT ACCOUNT—REAL ESTATE

Description of Property—Fund or Unrestricted

Dr.		Cr.	
Loss and gain	$.....	Loss and gain	$..... ....
For value of property given to hospital as per Journal entry 21.		For loss or depreciation as per Journal entry 19.	
Cash	$.....	Cash	$..... ....
Additions as per Cash Book.		For full or part payment as per Cash Book.	
Loss and gain	$.....	Mortgages receivable	$..... ....
For profit on sale as per Journal entry 19.		Full or part payment as per Journal entry 1.	
		Loss and gain	$..... ....
		For loss on sale as per Journal entry 12.	
Total	$.....	Total	$..... ....

Difference in totals equals present interest in property, if any.

8

INVESTMENT ACCOUNT—BONDS

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Cash	$.....	Cash	$..... ....
For purchase as per Cash Book.		For sale as per Cash Book.	
Loss and gain	$.....	Loss and gain	$..... ....
For value of bonds, unrestricted, given to hospital as per Journal entry 2.		For loss as per Journal entry 12.	
Edowed Bed Fund	$.....	Loss and gain	$..... ....
General Endowment Fund	$.....	For depreciation as per Journal entry 9.	
Other fund	$.....		
For value of bonds, restricted, given to hospital as per Journal entry 3.			
Loss and gain	$.....		
For profit on sales as per Journal entry 20.			
Total	$.....	Total	$..... ....

Difference in totals equals bonds as on Balance Sheet.

9

INTEREST

Dr.		Cr.	
Inventory	$.....	Inventory	$..... ....
Cash	$.....	Cash	$..... ....
For interest purchased as per Cash Book.		For interest received as per Cash Book.	
Cash	$.....	Inventory	$..... ....
For interest paid as per Cash Book.		For interest due and unpaid.	
Loss and gain	$.....	Loss and gain	$..... ....
For excess of costs over returns for the month as per Journal entry 17.		For amount of difference of interest earned over costs for the month as per Journal entry 16.	
Loss and gain	$.....		
For accrued interest on donations as per Journal entry 15.			
Inventory	$.....		
For interest due and unpaid.			
Total	$.....	Total	$..... ....
Inventory 1st of month	$.....	Inventory 1st of month	$..... ....

10

LOSS AND GAIN ACCOUNT

Dr.		Cr.	
Total 1st of month	$.....	Total 1st of month	$..... ....
Notes receivable	$.....	Mortgages receivable	$..... ....
For uncollectable notes receivable charged off as per Journal entry 13.		Bonds	$..... ....
Personal account receivable concerned	$.....	Other investments	$..... ....
For accounts receivable charged off as per Journal entry 10.		For value of same donated to hospital as per Journal entry 2.	
Mortgages receivable	$.....	Hospital land and buildings	$..... ....
Bonds	$.....	Equipment	$..... ....
For losses on sale as per Journal entry 12.		Real estate	$..... ....
Interest	$.....	Other investments	$..... ....
For loss as per Journal entry 16.		For profits on sales as per Journal entry 14.	
Expense	$.....	Hospital earnings	$..... ....
For current expense for the month as per Journal entry 23.		Accruals during the month as per Journal entry 19.	
Material	$.....	Interest	$..... ....
For loss or depreciation on Material as found by inventory as per Journal entry 25.		For gain as per Journal entry 17.	
		Interest	$..... ....
		For accrued interest on donations as per Journal entry 16.	
		Real estate	$..... ....
		For value of real estate, unrestricted, donated as per Journal entry 21.	
		Overpayments by patients	$..... ....
		For overpayments by patients not liable to be claimed and refunded as per Journal entry 22.	
		Material	$..... ....
		For surplus of material, over that shown in the books, as per inventory and Journal entry 24.	
Total	$.....	Total	$..... ....

Difference of totals equals loss or gain for the month. If the hospital is conducted on a partnership basis, this loss or gain will be debited or credited to the partners as per Journal entries 1 and 2 relating to such conditions.

11

MATERIAL ACCOUNT

Dr.		Cr.	
Inventory	$.....	Cash	$..... ....
For amount on hand 1st of month.		For sales as per Cash Book.	
Purchases	$.....	Personal account receivable	$..... ....
For purchase of material as per Invoice Book.		Sales for month as per Journal entry 24.	
Loss and gain	$.....	Loss and gain	$..... ....
For surplus amount found by inventory as per Journal entry 24.		For loss or depreciation as per Journal entry 25	
Total	$.....	Total	$..... ....

Difference in totals equals amount of material on hand.

12

ENDOWED BED FUND

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Loss and gain	$.....	Cash	$..... ....
For amount charged off from this fund owing to the cessation of liability of the hospital as per Journal entry 18.		For cash for endowment of beds as per Cash Book.	
		Bonds	$..... ....
		Other property	$..... ....
		For donations to this fund as per Journal entry 3.	
Total	$.....	Total	$..... ....

Difference in totals equals the Endowed Bed Fund.

13

GENERAL ENDOWMENT FUND

The General Endowment Fund is handled in the same manner as the previous example.

14

MORTGAGES PAYABLE

Dr.			Cr.	
Total of previous months	$.....		Total of previous months	$..... ....
Cash	$.....		Cash	$..... ....
For part or full payment of mortgages payable as per Cash Book.			For mortgages given as per Cash Book.	
Total	$.....		Total	$..... ....

The difference in the totals equals the value of mortgages payable.

15

NOTES PAYABLE

Dr.			Cr.	
Total of previous months	$.....		Total of previous months	$..... ....
Cash	$.....		Cash	$..... ....
Notes paid during the month as per Cash Book.			For loans incurred as per Cash Book.	
Notes payable	$.....		Notes payable	$..... ....
For renewals as per Journal entry 5.			For renewals as per Journal entry 5.	
Total	$.....		Total	$..... ....

Difference in totals equals notes payable.

16

HOSPITAL EARNINGS

Dr.			Cr.	
Total of previous months	$.....		Total of previous months	$..... ....
Loss and gain	$.....		Personal accounts receivable (enumerate)	$..... ....
For transfer to loss and gain account as per Journal entry 19.			As per Journal entry 6.	
Advance payments, Cash inventory	$.....		Cash	$..... ....
Overpayments by patients	$.....		For cash as per Cash Book.	
For overpayments as per Journal entry 20.				
Total	$.....		Total	$..... ....

This account balances monthly.

17

EXPENSE—ACCOUNTS PAYABLE FOR THESE ITEMS

Dr.			Cr.	
Inventory	$.....		Inventory end of month	$..... ....
Prepaid expenses.			Loss and gain	$..... ....
Accounts payable	$.....		For loss and gain on account of expenses as per Journal entry 23.	
For purchases as per Invoice Book.				
Total	$.....		Total	$..... ....
Inventory 1st of next month				$..... ....

The amount of the inventory equals prepaid operating expenses as shown on the Balance Sheet.

18

OVERPAYMENTS BY PATIENTS

Dr.			Cr.	
Total of previous months	$.....		Total of previous months	$..... ....
Loss and gain	$.....		Hospital earnings	$..... ....
For overpayments by patients not liable to be refunded as per Journal entry 22.			For overpayments as per Journal entry 20.	
Total	$.....		Total	$..... ....

The difference in the totals equals the amount of overpayments by patients held as liable to be refunded.

19

PERSONAL (NAME) ACCOUNT RECEIVABLE

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Hospital earnings	$.....	Cash	$..... ....
As per Journal entry 6.		As per Cash Book.	
		Notes receivable	$..... ....
		For notes receivable as per Journal entry 4.	
Total	$.....	Total	$..... ....

Difference in totals equals the amount due the hospital, if any.

20

PERSONAL ACCOUNT PAYABLE

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Cash	$.....	Purchases	$..... ....
For payments as per Cash Book.		As per Invoice Book.	
Total	$.....	Total	$..... ....

Difference in totals equals the amount still owing.

TRIAL BALANCE

TRIAL BALANCE OF AMOUNTS FOR YEAR 19....

Accounts	L. F.	January	February
Cash	1	$.....	$..... ....
Capital	2	....	....
Land and buildings	3	....	....
Equipment	4	....	....
Mortgages receivable	5	....	....
Notes receivable	6	....	....
Investments	7	....	....
Investments	8	....	....
Interest	9	....	....
Loss and gain	10	....	....
Material	11	....	....
Endowed Bed Fund	12	....	....
General Endowment Fund	13	....	....
Mortgages payable	14	....	....
Notes payable	15	....	....
Hospital earnings	16	....	....
Accounts payable, expense	17	....	....
Overpayments by patients	18	....	....
Personal accounts receivable (enumerate)	19	....	....
Personal accounts payable (enumerate)	20	....	....
Totals		$.....	$..... ....

These totals should agree.

SCHEDULE 1

COMPARATIVE SURPLUS AND DEFICIT ACCOUNT FOR YEARS ENDED DECEMBR 21, 19...., AND 19....

	19....	19....		19....	19....
Total current expenses	$.....	$.....	Total current revenue	$.....	$..... ....
Capital expenditures—			Capital items sold	$.....	$..... ....
Land and buildings	$.....	$.....	Profit on above sale	$.....	$..... ....
Furniture and fixtures (capitalized)	$.....	$.....	Profit on sales of investment	$.....	$..... ....
Apparatus, instruments	$.....	$.....	Amount charged off Endowed Bed Fund and other funds owing to cessation of liability of hospital	$.....	$..... ....
Miscellaneous	$.....	$.....			
Total capital expenditures	$.....	$.....	Cash for fire insurance, etc, interest	$.....	$ .. ..
Uncollectable accounts receivable	$.....	$.....			
Loss and depreciation charged off current asset accounts	$.....	$.....			
Investment account, interest	$.....	$.....			
Total	$.....	$.....	Total	$.....	$..... ....
Surplus for the year	$.....	$.....	Deficit for year	$.....	$..... ....
Total	$.....	$.....	Total	$.....	$..... ....

SCHEDULE 2

COMPARATIVE BALANCE SHEET FOR YEARS ENDED DECEMBER 31, 19...., AND 19....

	19....	19....	Increase	Decrease
Capital Assets—				
Hospital lands and buildings	$.....	$.....	$.....	$..... ....
Furniture and fixtures	....	....	....	....
Apparatus and instruments	....	....	....	....
Mortgages receivable	....	....	....	....
Bonds	....	....	....	....
Property	....	....	....	....
Miscellaneous	....	....	....	....
Total capital assets	$.....	$.....	$.....	$..... ....
Current Assets—				
Notes receivable	$.....	$.....	$.....	$..... ....
Accounts receivable	....	....	....	....
Material on hand	....	....	....	....
Cash	....	....	....	....
Prepaid insurance	....	....	....	....
Prepaid taxes	....	....	....	....
Total current assets	$.....	$.....	$.....	$..... ....
Capital Liabilities—				
Capital (hospital property and equipment)	$.....	$.....	$.....	$..... ....
General Endowment Fund	....	....	....	....
Endowed Bed Fund	....	....	....	....
Other reserve funds (list each)	....	....	....	....
Mortgages payable	....	....	....	....
Total capital liabilities	$.....	$.....	$.....	$..... ....
Current Liabilities—				
Notes payable	$.....	$.....	$.....	$..... ....
Advance payments by patients	....	....	....	....
Overpayments by patients	....	....	....	....
Accounts payable	....	....	....	....
Accrued wages unpaid	....	....	....	....
Total liabilities	$.....	$.....	$.....	$..... ....
Total loss or gain	....	....	....	....

If the hospital is conducted by an individual or on a partnership basis, the capital account will become the proprietors' accounts—one, two, three, or more, as the case may be.

SCHEDULE 3

COMPARATIVE STATISTICS OF PATIENTS TREATED FOR YEARS ENDED DECEMBER 21, 19...., AND 19....

	19...	19...	Increase	Decrease
Patients in hospital January 1, male	.....	.....	.....	.....
Patients in hospital January 1, female	.....	.....	.....	.....
Patients admitted during year, male	.....	.....	.....	.....
Patients admitted during year, female	.....	.....	.....	.....
Total	.....	.....	.....	.....
Male	.....	.....	.....	.....
Female	.....	.....	.....	.....
Patients discharged, cured	.....	.....	.....	.....
Patients discharged, improved	.....	.....	.....	.....
Patients discharged, unimproved	.....	.....	.....	.....
Patients transferred	.....	.....	.....	.....
Patients died	.....	.....	.....	.....
Total	.....	.....	.....	.....
Patients in hospital December 31, male	.....	.....	.....	.....
Patients in Hospital December 31, female	.....	.....	.....	.....
Total	.....	.....	.....	.....
Total patients treated	.....	.....	.....	.....
Average per day	.....	.....	.....	.....
Average number employees per day	.....	.....	.....	.....
Total patients days treatment	.....	.....	.....	.....
Total expense of operating hospital	.....	.....	.....	.....
Cost per patient per day	.....	.....	.....	.....

Expense divided by patient days treatment equals cost per patient per day.

[To be continued.]

THE RELATION OF THE HOSPITAL SUPERINTENDENT TO RESEARCH*

Essential Requirements for the Successful Prosecution of Research in the General Hospital—A Practical Plan for Team-Work in Research

By HERBERT O. COLLINS, M.D., Superintendent of Hospitals, Minneapolis.

A HOSPITAL is usually defined as an institution or building for the care and treatment of the sick or injured.

There was a time in the history of hospitals when such a definition covered the entire subject, and one seldom thought of them as anything more.

Almost from the first, however, these institutions were utilized for the teaching of medical students. And, as medicine became more and more a complex science, the importance of the hospital clinic became greater. Then was added the intern service, partly to assist the hospitals in their work, and partly to supplement the undergraduate clinics and give to a portion of the young doctors the advantages of post-graduate hospital training. The next step along these lines, only comparatively a few years old in this country, was the addition of the fifth, or hospital year, to the medical student's training, making the hospital intern service compulsory and linking the modern general hospital still more closely to the medical college.

With the development of the profession of nursing, the hospital easily took the position as the best and most natural place in which the nurse's training should be given, and the training school for nurses was added to the other activities of the hospital, broadening and elevating its status at the same time. To this, many hospitals have added training courses for dietitians, laboratory technicians, x-ray operators, record clerks, housekeepers, social workers, and others, as well as post-graduate courses for doctors and nurses.

The result of all this is that the modern general or special hospital is one of the most complex organizations of which we have any knowledge. In fact, it has rightfully ceased to be a mere boarding house for the sick; its original sphere is almost lost sight of in some cases, and it is becoming more and more an educational institution, of which the care of the sick forms merely the fundamental basis.

The broadening of the field of the hospital administrator is not always appreciated by the public, and is seldom realized by the superintendents themselves. A man who enjoys a national reputation among educators once remarked this to me after he had finished the survey of the public health and hospital situation in a large city, calling my attention to the fact that few professions cover so broad a field as that of hospital administration. For, as he expressed it, the modern hospital superintendent must not only be a good executive, but he must know something of medicine, hygiene, pathology, and bacteriology; he must have some knowledge of the training of nurses and of the supplemental training of medical students, as well as the ability to buy coal, meat and other foods; he must be an expert in the running of a large laundry and cold storage plant, and competent to manage something similar to a large hotel, for the accommodation of his resident staff and private patients.

The question, therefore, as to whether the hospital superintendent should be burdened with any more responsibilities is a very proper and pertinent one, and we are at first tempted to declare that he should be spared. Yet there is a large and uncultivated field in the promotion of medical research in nearly every large hospital, and, if science is to continue to advance, this opportunity must be made use of in a more organized and systematic way than is commonly done. Those who are in a position to exercise control over this large amount of clinical material are not fulfilling their trust if they do not make every effort to see that it is used in the best way for the advancement of science, and the ultimate benefit of the race.

I presume that we are safe in saying that there is no hospital—certainly none worthy of the name—in which there is not a certain amount of research done by members of the staff. This kind of work is largely individual, and is to be commended and encouraged. Certainly none of us would want to interfere with it in the least, and we all recognize our duty to assist members of our staffs in any way that we can. Yet, because this is individual work and often lacks the guiding hand of a trained and experienced investigator, it will always have its limitations and fall short of its complete possibilities.

There are a few hospitals in this country in which more organized work is attempted. In most instances, these are institutions in which a special fund or endowment is set aside for research, and they occupy a class by themselves. We are usually contented to leave this field to the specially endowed institution or foundation, on

*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

the supposition that nothing like regularly organized work in medical research can be done in the average hospital, which has to depend upon its own income from private patients, or appropriations from public funds, which are nearly always too small.

But is this entirely true? Cannot some method be adopted whereby any large hospital can engage, as an organization, in work of this kind, without the necessary expenditure of a large sum of money, and without interfering with the more fundamental objects of the institution?

I believe that this is perfectly possible, and that the time will come when we shall recognize the department of medical research as being as important and essential a part of the organization of a modern general hospital, as is the training school for nurses, the intern service, or clinics for undergraduates in medicine.

What can the superintendent of a hospital do in connection with such work in his institution? Certainly he cannot personally go to the laboratory and work out problems, nor can he be expected to do clinical work in the wards upon which investigation would be based. But if he is the right kind of a superintendent he is in a position to take the initiative in organizing the work, in helping it along from time to time by giving it the encouragement and recognition of the administration and by furnishing the workers with such equipment and supplies as may be found to be within the financial limits of the hospital. As most such equipment will be found to be already at hand, a little care in selecting the subject to be studied will result in keeping the cost down to a comparatively small figure.

Several things, it seems to me, are essential to successful organized research work in a general hospital, namely, absolute sympathy and active cooperation on the part of the administration. This may be considered as fundamental, for, without such attitude, the staff will be able to accomplish very little. Such sympathy should be active, and shared by nurses, laboratory workers, and others, till the proper atmosphere is created, most necessary to the accomplishment of the best work. Passive tolerance on the part of the administration will hardly be accepted as a substitute.

Probably the most important part of the work which the superintendent can do in connection with the encouragement of organized research, consists in setting a high standard for the professional work of the hospital. The first step should consist in careful selection of the men who constitute the staff, in order that physicians who will bring credit to the hospital, giving it something in return for what they take out of it, shall be selected for these very desirable positions. Not in all hospitals are such appointments made by the superintendent, but as far as possible he should make an effort to see that the proper type of men are appointed. This done, half the battle for scientific work is won, but not the whole. The standard once set, an effort can be made to keep up to it, letting it be known that mediocre work will not be accepted, and that those members of the staff who are engaged in the highest type of medical research in connection with their clinical work will be favored by the administration in every way possible. This attitude need not in the least interfere with the clinical work or the actual personal care of the individual patients. For, as is usually acknowledged, patients receive better care in a teaching hospital than in one where there is no teaching, so the general scientific atmosphere created by a body of men and women seeking to solve medical or surgical problems will usually result in the highest type of clinical work, to the benefit of the patient. There may now and then be found an enthusiast who will spend time in the laboratory which he should give to the patient, or who will allow a disease to run an unchecked course while he studies certain phenomena connected with it. But such an impractical person should soon be checked and if necessary dropped from the staff entirely.

The superintendent can assist greatly in research by providing his institution with a proper and carefully kept system of case records, making it possible to examine at any time and with the least possible expenditure of time the records and statistics of any given class of cases. The average hospital records are of little value for such work, and consist chiefly of written evidence of waste of time by interns and nurses, and of valuable paper, which gradually accumulates in untold tons. A good record system can be obtained only by eternal vigilance and attention to details. The superintendent can do much here, but by no means all. He can establish the general rules, carefully select his record clerks, see that records are properly filed, indexed and cross-indexed, and preserved, and can do a great deal by refusing to accept a clinical record which is not complete and up to the proper standard. But after all, if the case records are to be what they should be, so kept that the record shows a clear picture of the case years after the patient is forgotten and memory is no longer of value, the responsibility for their accuracy and value must rest chiefly upon the staff member who is in charge of the patient. For he is the only one who will be sufficiently familiar with the clinical work to know whether

a record is right or wrong, complete or incomplete. "Why waste hours writing histories, when the staff never takes the time to look at them?" is too familiar an argument of the average hospital intern, who would much prefer to use his valuable time in goiter or gall-bladder operations than in doing what, to him, seems like unimportant clerical work. And the hospital attending physician or surgeon who never reads his patients' histories and who is, in his own estimation, too big a man to be bothered by such detail work as the examination of his case records to see that his intern and nurse are properly recording the essential points of the case and omitting records of non-essentials, will usually be found out of place on the staff of a hospital which is endeavoring to do any really valuable research work.

The value of records for the purpose of case study can be increased greatly by standardizing the system in use in a group of two or more hospitals located in the same neighborhood. Thus, statistics of five hundred cases of lobar pneumonia, found in the record room of one hospital, may easily be multiplied to one or two thousand cases taken from the records of other hospitals of the same city, covering a given time. This does not necessarily carry with it a proposal that the records of all hospitals considered should be kept in exactly the same way. There are real objections to such a proposition, as the needs and long-established customs of each hospital may differ. But if the superintendents of a neighborhood group of hospitals will get together, they will usually find little difficulty in adopting a standard system of indexing their records, and common methods of recording important data, which will render it comparatively easy to unite the statistics from all, whenever this should be desired. The most important step in this direction consists in the adoption of some definite system of nomenclature by all. Otherwise different terms and classifications will be found, making comparison of records practically impossible.

My plea is chiefly for more systematic research work in the wards of our public hospitals, and my proposition is that such work should be regularly organized by the superintendent as a legitimate branch of his institution. Without replacing to any extent work attempted by individual members of the staff, that which I have in mind should be carried out by the hospital organization, and would require unselfish "team-work" on the part of those engaged in it. You will all agree that to bring about such team-work in the average hospital staff will constitute one of the most difficult problems the superintendent has set for himself for a long time. But by care, patience, diplomacy, firmness of purpose, and now and then the resignation of some member unwilling to cooperate, it can usually be done.

To illustrate my meaning, let me suggest the following scheme for such work, adapted to a large general hospital, which has no fund for research work, and in which the staff is made up of men of at least average professional ability.

1. At the beginning of the year, there will be a meeting of the various chiefs of staffs, with the superintendent of the hospital. At this meeting, the subjects of which intensive studies are to be made over certain specific periods are selected and assigned to individual chiefs of the various services and their staffs. As far as possible, such assignments would be made according to the individual preferences, and interest of those made responsible for the work. For instance, to Dr. A and his staff, is assigned the subject of lobar pneumonia. Dr. B and staff choose diabetes and the metabolic problems connected with it; Dr. C and staff elect gall bladder conditions, while Dr. D and staff draw the subject of fractures.

2. During the periods determined on, which may be six months or a year, and which will vary according to the subjects, all cases admitted to the public wards will be classified and each class will be assigned to the division of the staff to which that particular branch is allotted for study.

Thus, in our example, all cases of pneumonia admitted to the hospital for a given period are assigned to Dr. A and staff; all diabetics to Dr. B and staff, all gall bladder cases to Dr. C, and all fractures to Dr. D.

3. At the end of the specified period, each group of men would be required to write a complete report of their study of the problem assigned to them.

4. A meeting, or if necessary, a series of meetings, of the entire staff would then be called, at which these reports would be read and discussed.

5. The reports themselves, with the most valuable part of the discussion, would be offered for publication in one of the leading medical journals, being published as the work of the hospital, rather than as that of individual members of the staff.

6. This done, another meeting of the committee would be called, and new subjects selected and assigned as before.

There are few public hospitals in the country in which such work could not be organized. The expense connected with it need not be large and the results would be far reaching.

At bottom everything depends on the presence or absence of one single element in the soul—hope.—Amiel's Journal.

THE HELEN NEWBERRY NURSES' HOME*

An Unusually Beautiful Example of Architecture Found in the Nurses' Home of Grace Hospital, Detroit—Homelike and Attractive Features

By HARRIET LECK, R.N., Principal Grace Hospital Training School for Nurses, Detroit, Mich.

COMPLETE and practical plans for a nurses' home are those which tend to the cultivation and development of the social life, health, and happiness of the nurse.

Fig. 1. The Helen Newberry Nurses' Home of Grace Hospital, Detroit.

In the year 1898, the boards of directors of the Grace Hospital, Detroit, decided that there must be permanent quarters provided for the nurses of this institution. One of the founders of the hospital, Mr. Chaffee, gave an acre of land which at that time was not much more than a cow pasture.

The building was planned and built by Albert Kahn of Detroit, who produced a home capacious, substantial, and beautiful, at a cost of about $17,000. After it was finished the president of the lady board of managers not only covered the cost but furnished the first floor and during her lifetime kept it in repair. The home bears her name and is a memorial to Mrs. Helen H. Newberry.

Since her death, her daughter, who succeeded her on the board, has kept alive interest by giving furniture, redecorating, etc., so that the building is now in good repair, and, with a wing built in 1911 and an addition to the wing built in 1915, it accommodates 140 nurses.

The home stands just across the street from the hospital, facing the east, and has a frontage of 122 feet. It is of old English architecture, somewhat of the Oxford type. It gives an impression of real beauty unusual in institutional buildings. The wing is on the south and extends from the west side of the main building. This part of the building is planned and used entirely for nurses' rooms. The floors are terrazzo, easily cleaned. One the west end of the fourth floor is a sleeping porch which is very popular in summer. The floors of the main building are stained hardwood. The main hall is wide and airy and the rooms are, with a few exceptions, double. Each floor has two baths and toilet rooms.

Fig. 2. The hall in the Helen Newberry Nurses' Home, showing some of the unique and beautiful architectural effects.

In the basement are two trunk rooms; the linen

*This article is the fourth in a series of articles on nurses' homes. The first article, which appeared in January was by Olof Z. Cervin, and was entitled "Nurses' Homes and Some of Their Requirements." The second, by C. Happersett and Louis H. Rush, was on the "Kistler Memorial Home for Nurses of Lock Haven Hospital," and appeared in February. The third, "New Nurses' Home for Minnequa Hospital, Pueblo, Colo.," by R. W. Cervin, appeared in March.

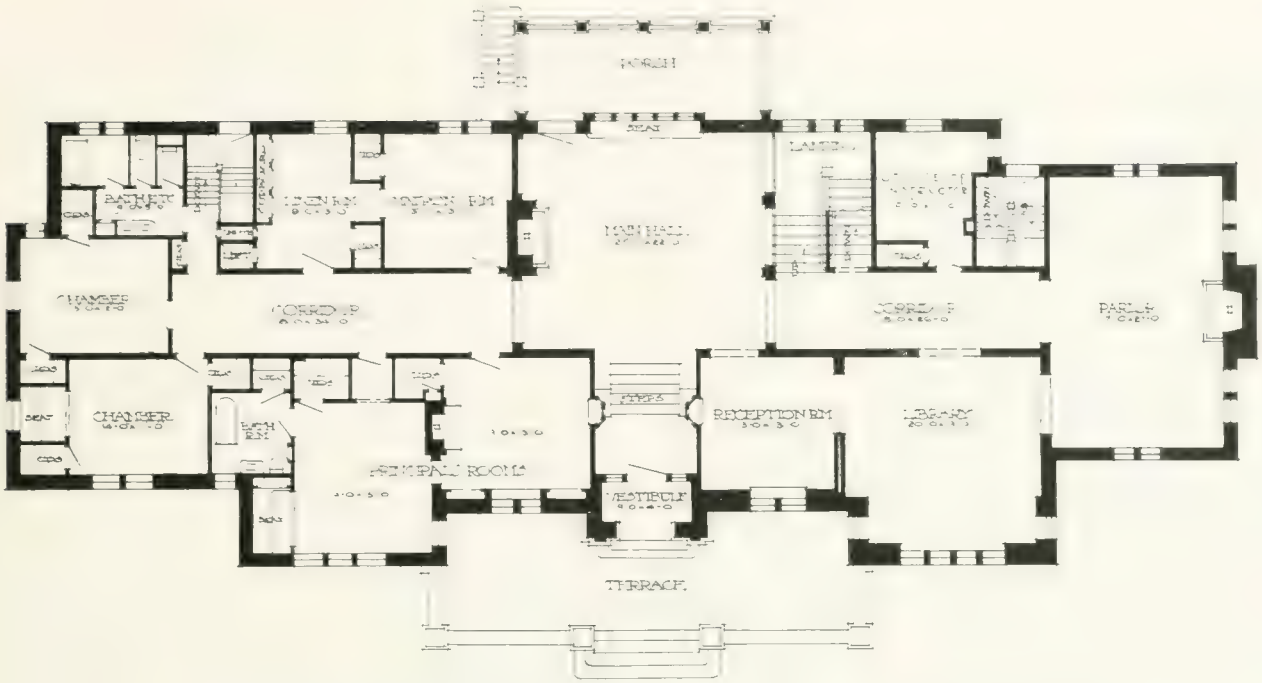


Fig. 3. The first floor plan of the Helen Newberry Nurses' Home. A wing, not shown in this plan, has been added to the home. The arrangement of the rooms in this wing is the same as that shown in the following illustration, the plan of the second floor.

room for the distribution of personal laundry; the laundry room, equipped with three sanitary tubs, ironing boards and irons, clothes horses, etc.; a storeroom. The demonstration room is equipped on the one side with gas plates, running water, cupboards, sink, etc., for demonstrations in dietetics, on the other with doll, bed, and utensils for demonstrations in practical nursing. Many times the desks with gas plates are used for demonstrations in poultice-making, fomentation, etc. The classroom is also in the basement under the library of the main floor. It is well equipped with charts, blackboard, desk chairs, and lanterns, both for moving picture and slide, used for instruction and entertainment. Next to the classroom is a room planned and fitted up as a dining room, off from which is a kitchenette, and these rooms are for use

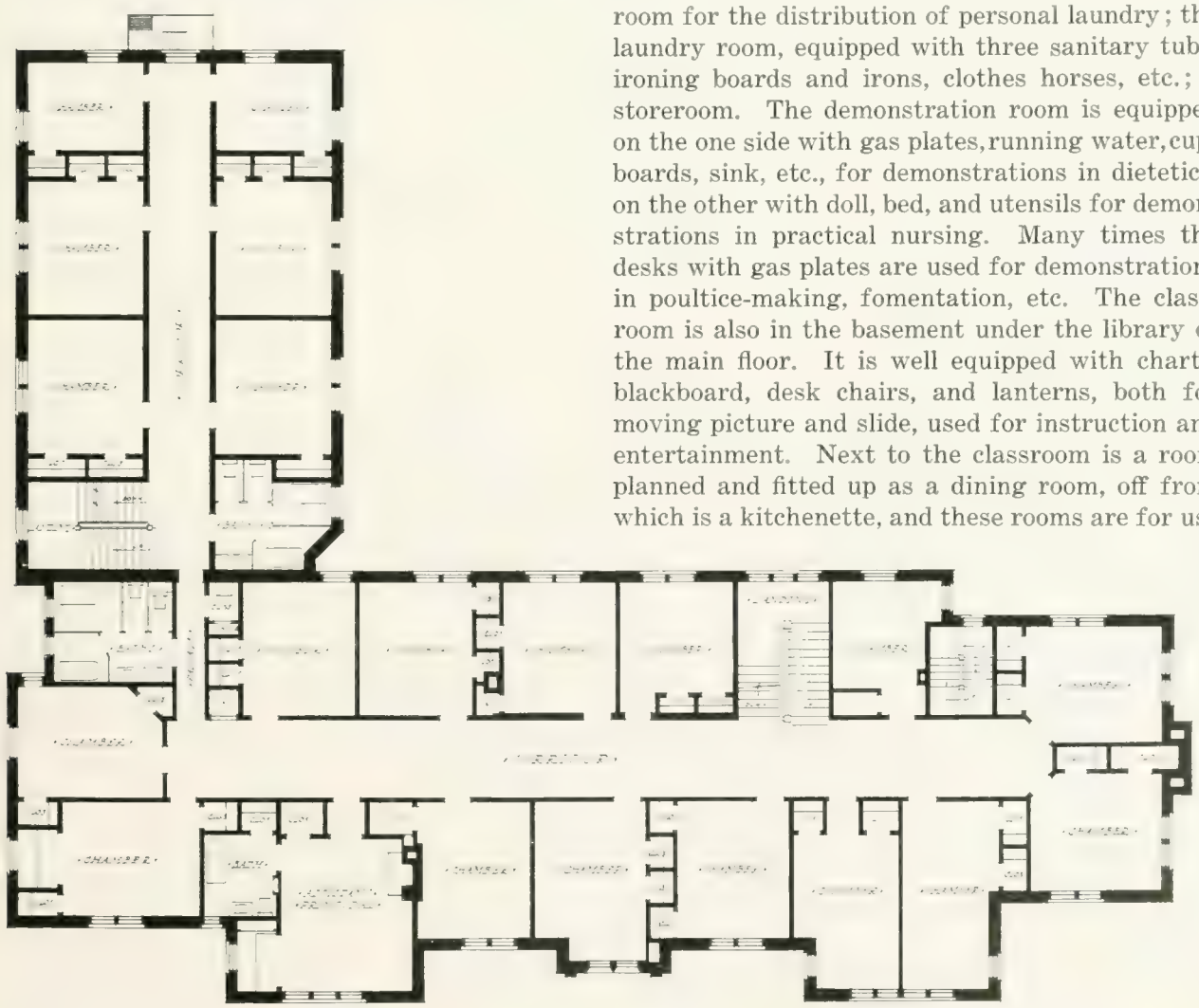


Fig. 4. The second floor plan of the Helen Newberry Nurses' Home.

for the nurses in their "class spreads," "corn roasts," and the serving of refreshments at parties, at which time the classroom, too, is made unrecognizable in its homelike appearance. The fireplace adds to the coziness of this room, and the decorations are light and cheerful. The class and lecture rooms are all used at times by the polyclinic and medical societies for meetings, and lunches are served after these meetings.

The main entrance to the home is striking, the woodwork massive, and the impression made on the visitor is that on entrance to an English manor house—beautiful and homelike.

The main entrance hall, which is used as a living room, is broad and has a high-beamed ceiling, a great old-fashioned fireplace on the one side and the main stairway of hand-carved black oak on the other. At the back of the hall there are delicately designed leaded glass windows and a window seat almost the length of the room. A massive mantel of carved black oak reaches over the fireplace nearly to the ceiling, and the hall table and chairs are of the high cathedral type. Here is a favorite gathering place for nurses off duty, for the meeting of friends or classmates, for the receiving and reading of mail on cool days around the grate fire; on warm days the tendency is toward the porch overlooking the tennis-court leading out from this room. One hardly enters the house without finding this attractive, livable room occupied.

The reception room, the library and the parlor, equipped with magazines, books, and music, respectively, give opportunity for more privacy. The furnishings and decorations of each are different, yet all are in harmony when thrown together and give ample room for monthly class meetings when programs are given for the benefit of the whole school, or when parties or dances are resorted to periodically. On these occasions the friends are glad to avail themselves of our hospitality and the young ladies are proud to have them come. The reception room and parlors and the wide halls and doorways connecting them with the entrance hall living room make it possible for the first floor to be used as a whole for entertainment purposes.

The office of our instructor is across from the library at the head of the basement stairs, a convenient place for nurses passing to and from either class or duty. On the other side of the entrance are the rooms of the principal, the home supervisor or "house mother," the linen and supply room, and what we term the "sick room," where nurses with slight illnesses are cared for, away from any danger of infection to room or classmate and convenient to the visits of the doctor, the nurse, and the house mother.

Our aim has been, with such possiblities of environmental influence on the nurses, to have the first floor used to advantage as well as every other part of the building. The tendency of the pupil nurse, as a rule, is to spend her time off either in her own room or out of the home entirely. This must be guarded against by having the rooms for general use so attractively planned and furnished that pupil nurses will naturally "drop in" because of the "homey" atmosphere which permeates them.

A nurses' home should be an "uninstitutional institution," planned and equipped with the view of recreation, of rest and freedom from any reminder of professionalism, and should breathe, as it were, an air of wholesomeness, coziness, comfort, and hominess, because the nurse is first of all a young woman. She is at the impressionable age, and should have just the environments thrown about her that will not only develop her natural instincts but will bring out the best in her as a nurse.

Hospital Held Not Liable for Negligence of Nurse

The history of a recent case which is of interest to hospitals is as follows:

Suit was instituted in the Municipal Court of Chicago by S. J. McCaull against the Presbyterian Hospital. The plaintiff alleged negligence, carelessness and unskillful treatment in that he had been severely burned and scalded while under the care of a private nurse in that hospital. After hearing the evidence and arguments of counsel, the court instructed the jury to find for the defendant on the ground that while the Presbyterian Hospital is not an institution established by and supported through trust funds, yet, inasmuch as it is maintained to some extent by trust funds and the annual deficit is made up by donations, it comes within the class of institutions which, as charitable foundations, are not liable for the negligent acts of their servants; and, moreover, that the private nurse employed to care for the patient was not a servant of the hospital.

The cases referred to by the court in support of this were: *D. M. Stewart* v. *St. Helena Sanitarium* (Vol. 26, California Appellate Court, Civil Number 1733), *Morrison* v. *Henke* (Wisconsin Supreme Court, 1916), *Tucker* v. *Mobile Infirmary Association* (68 Southern Reporter 4).

The case of *McCaull* v. *The Presbyterian Hosiptal* was assigned the Number 210, 324. Other cases cited as bearing on this case were *Parker* v. *Northwestern University* (218 Illinois 381) and *Tollefson* v. *Ottawa* (228 Illinois 134).

A Yorkshire recruit walked up to a major on parade and casually asked: "'Ast tha seen aught o' B Coompany?"

The major exploded: "What the devil do you mean by daring to address me like this? Stand to attention at once and salute when you address an officer. Don't you know an officer when you see him? I'll tell you."

A long explanation followed of the marks of rank, at the end of which the man from Sheffield wearily observed: "Aye, but tha 'asn't told me if tha's seen aught o' B Coompany."

THE NEW SWEDISH LUTHERAN HOSPITAL AT MOLINE, ILL.

New Type of Windows—Ceilings of Corridors Used as Pipe Carriers—Other Novel Features in a Compactly Built, Workable, Modern Institution

By OLOF Z. CERVIN, Architect, Rock Island, Ill.

THIS hospital is the latest of a long series of similar institutions under the care of the Swedish Lutheran Augustana Synod. A special effort was, therefore, made to keep fully abreast of all modern and accepted improvements. It should be unnecessary to state that such items as flush doors, coved corners, silent nurse calls, sun parlors, automatic elevators, and bubbling fountains are a part of the scheme.

Fig. 1. New Lutheran Hospital. General view.

The building is located on the north brow of the Mississippi bluffs, overlooking the beautiful river. A U-shaped plan was adopted in the beginning to provide as many rooms with sunlight as possible. The ground slopes to the west, and all of the kitchen part will be above ground, though the remainder of this floor is a high basement. At present only the east wing has been erected and connected with the residence already on the site, and now converted into a nurses' home. The main kitchen and office are located there temporarily. The capacity of this part is 53 beds, or, when filled to utmost, 60 beds. The total capacity of the hospital, when completed and not crowded, will be 134 beds. The halls, toilets, and sink room floors are terrazzo, without any sand in the aggregate. The bed room floors are of narrow hard maple strips, only $1\frac{3}{8}$ by $\frac{3}{4}$ inch, such as are used in dance halls..

The toilet arrangement has proved especially acceptable. Separate toilets with basins are provided for men and women in each wing close to an outside window. Between these is the bath room, with high windows in the wall. One soil pipe serves all three rooms, and the space around them ventilates the bath room. Thus all three of these rooms can be used without going through one to reach another.

Each nurses' sink room or

Fig. 2. New Lutheran Hospital. One of the private rooms.

utility room is equipped with the following fixtures: slop sink, laundry tray, utensil sterilizer, bed-pan warmer, blanket warmer, monolith table top, gas plate, steam connection for fomentation, and electric utility outlets.

Fig. 3. New Lutheran Hospital. Operating room.

Heating is by the Moline system of vacuum heat, and all radiators are suspended from the wall. In the boiler room are high- and low-pressure boilers, garbage burner, and hot water tank. A gas incinerator is located on the third floor. Positive ventilation is provided for the toilets, sink rooms, halls, and diet pantries, partly by fan and partly by utilizing the space around the steel smoke pipe. A new type of window, opening first at the meeting rail and then at top and bottom, was adopted throughout. In winter abundance of fresh air is obtained without any draft.

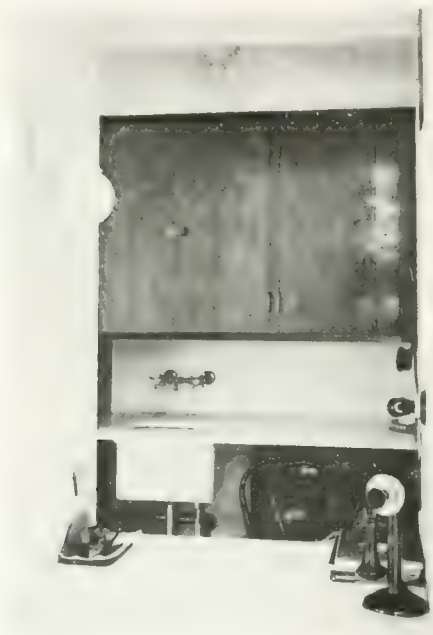


Fig. 4. New Lutheran Hospital. Nurses' station.

The ceilings of the halls are suspended 12 inches below the concrete slab, and trap-doors are placed every 15 feet. Piping is run in this space, and, as future inventions may demand it, this space can be used for additional piping or wiring, which will to a large extent be concealed. The stair balustrade is solid plaster, eliminating spindles and newels, so as to be easily kept clean. Stairs and elevator shaft are inclosed, doors cutting off noises that would travel from floor to floor. The nurses' station is recessed in the corner of the hall. It has telephone, white glass top tables, small sink, medicine cases, linen cases, record racks, and drawers. An unusual amount of privacy is obtained by this recessing.

On each floor are several small private rooms, only 100 feet floor space, each somewhat smaller than customary. These have proved popular with patients. A room has been provided with lockers for special outside nurses. Hospitals have been criticised for omitting this room.

The laboratory will be in the third story over the children's ward. A temporary laboratory is now in the basement, where sterilizing rooms are shown.

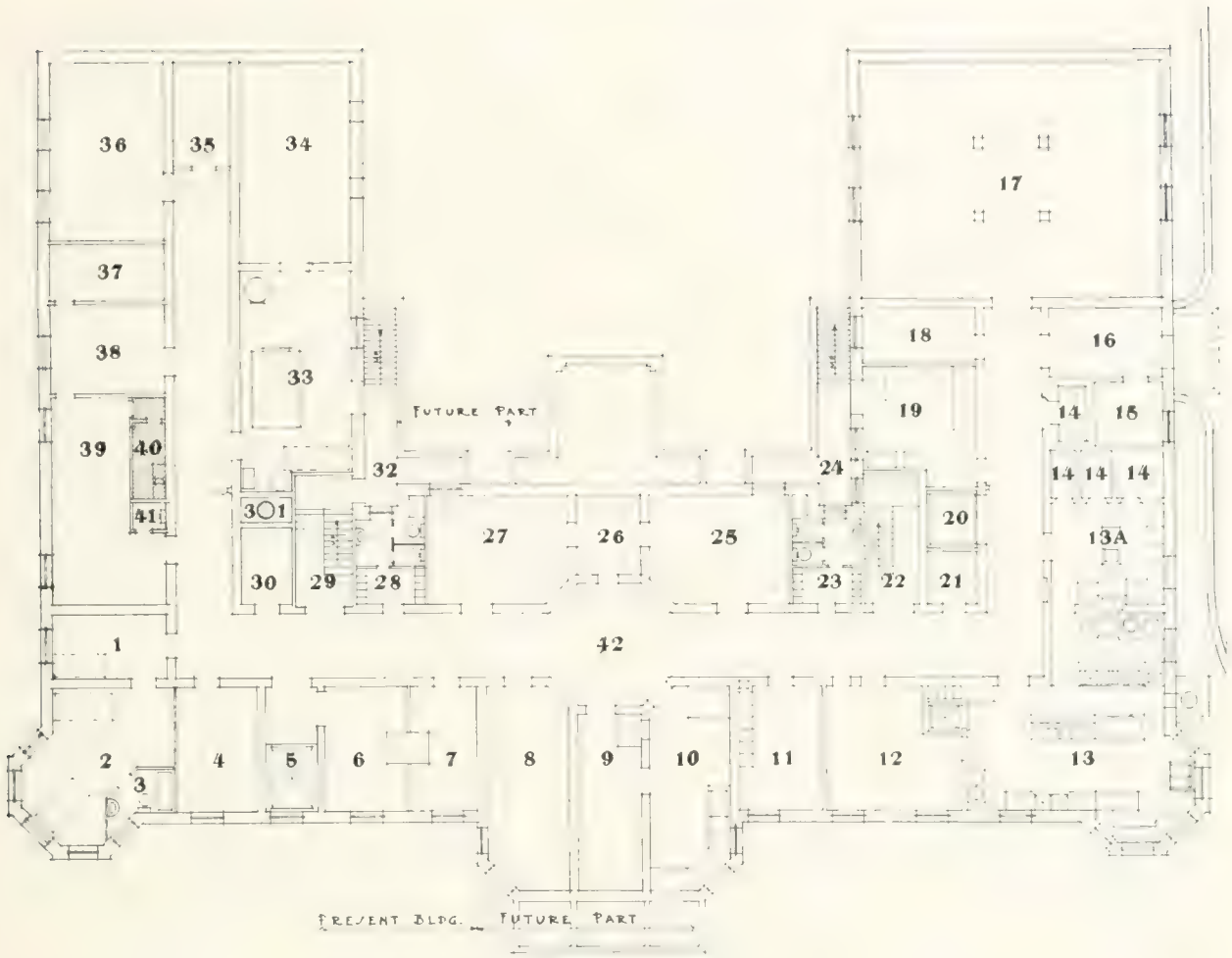


Fig. 5. Lutheran Hospital. Basement floor plan.

1. Attendant.
2. Isolation ward.
3. Bath.
4. Storage.
5. Elevator.
6. Sterilizer.
7. Clean clothes.
8. Drug storage.
9. Bakery storage.
10. Bakery.
11. Special nurses' locker room.
12. Help's dining room.
13. General kitchen.
13A. Vegetable preparation room.
14. Refrigerators.
15. Ice machine.
16. Entrance.
17. Future laundry.
18. Storage.
19. Morgue.
20. Freight elevator.
21. Storage.
22. Stair hall.
23. Female help's toilet.
24. Area.
25. Kitchen storage.
26. Kitchen storage.
27. Kitchen storage.
28. Male help's toilet.
29. Stair hall.
30. Vacuum cleaner.
31. Smokestack.
32. Area.
33. Boiler room.
34. Coal room.
35. Meters.
36. Hydropathic rooms.
37. Plate storage.
38. X-ray treatment room.
39. X-ray room.
40. Dark room.
41. Toilet.
42. Rotunda.
C. Clothes closet.

The exterior is a variegated red vitrified brick. The construction is reinforced concrete for floors, brick bearing walls, and gypsum partitions. The outside walls are furred with gypsum slabs. The total cost of the part erected, including considerable remodeling in the nurses' home and architect's fees, x-ray and other equipment, but not furniture, was about $62,000.

The hospital was opened in February of this year, enrolling during the first week twenty patients.

Reorganization of Canadian Military Reconstruction Work

The Publicity Department of the Military Hospitals Commission of Canada advises that the Canadian Government has seen fit to reorganize in some degree its repatriation work. The element of dual control in the administration of hospitals has been eliminated by continuing the complete jurisdiction of the Militia Department (the army) over returned soldiers up to the date of their discharge. All other problems, including the vocational training, provision of artificial limbs, orthopedic appliances, pensions, etc., come under a new department. The organization built up by the Military Hospitals Commission will continue to serve the new department, but the wish of the Army Medical Corps that it have complete control of the institutions in which it performs its services to the returned soldiers has been acceded to. The cases requiring prolonged or permanent treatment will, at the point where the Army Medical Corps deems that a finality in their treatment has been reached, be transferred to the jurisdiction of the new department. This class of cases will include epileptics, insane, tuberculous, and men with such noncorrectible physical disabilities as will necessitate their vocational reeducation.

We can give only what we have. Happiness, grief, gaiety, sadness are by nature contagious. Bring your health and your strength to the weak and sickly, and so you will be of use to them. Give them not your weakness but your energy—so you will revive and lift them up.—Amiel's Journal.

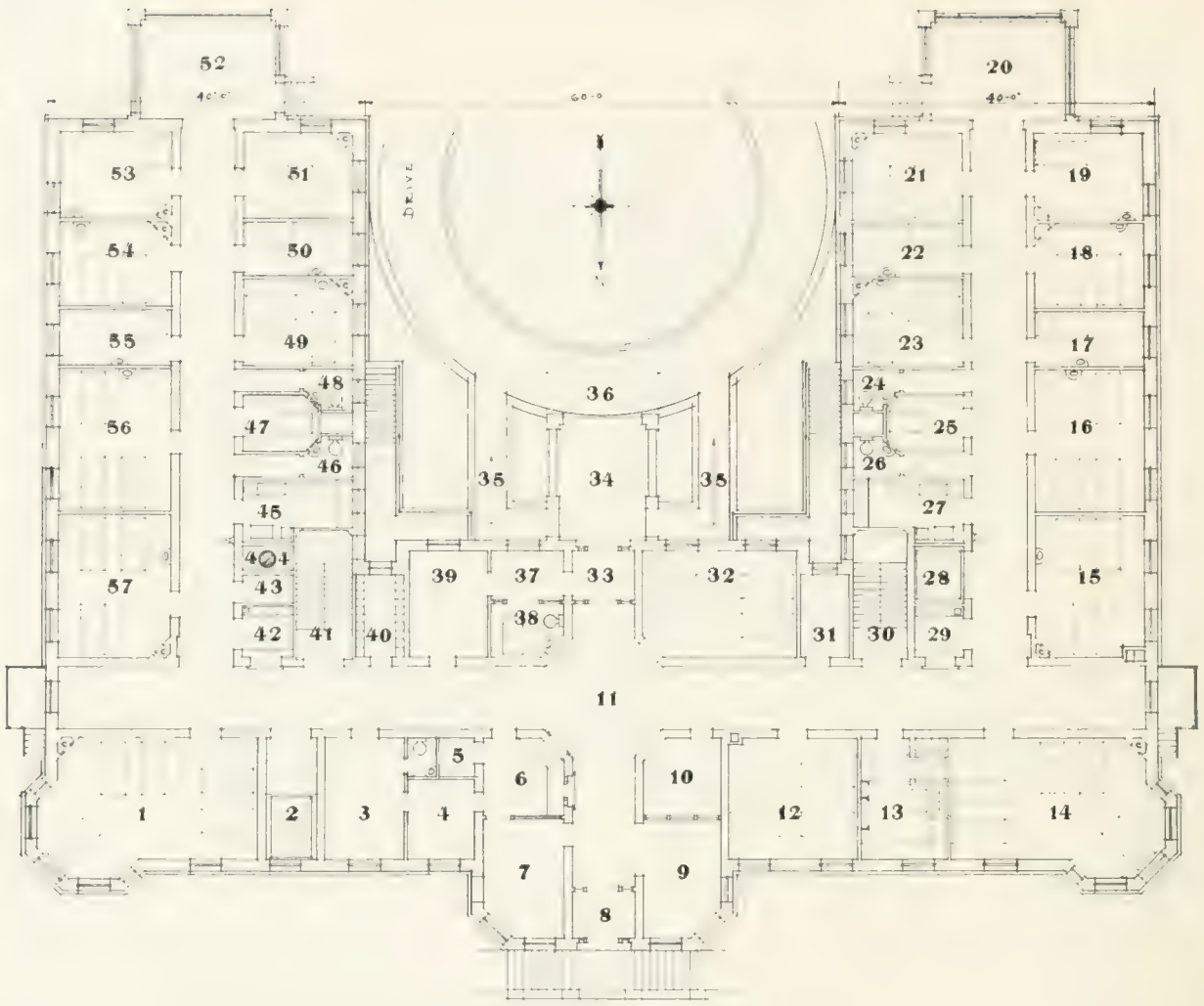


Fig. 6. Lutheran Hospital. First floor plan.

1. Five-bed ward.
2. Elevator.
3. Matron.
4. Bookkeeper.
5. Vault.
6. Office.
7. Superintendent's room.
8. Vestibule.
9. Reception room.
10. Doctors' coat room.
11. Rotunda.
12. Three-bed ward.
13. Diet pantry.
14. Five-bed ward.
15. Three-bed ward.
16. Three-bed ward.
17. Private room.
18. Two-bed ward.
19. Private room.
20. Sun porch, glazed.
21. Private room.
22. Private room.
23. Two-bed ward.
24. Men's toilet.
25. Bath.
26. Women's toilet.
27. Nurses' duty room.
28. Freight elevator.
29. Nurses' station.
30. Stair hall.
31. Wheel chairs.
32. Three-bed ward.
33. Vestibule.
34. Porch.
35. Inclines.
36. Canopy.
37. Admission room.
38. Bath.
39. Doctors' examination room.
40. Patients' locker room.
41. Stair hall.
42. Nurses' station.
43. Janitors' closet.
44. Smokestack.
45. Nurses' duty room.
46. Women's toilet.
47. Bath.
48. Men's toilet.
51. Private room.
52. Sun porch, glazed.
53. Private room.
54. Two-bed ward.
55. Private room.
56. Three-bed ward.
57. Three-bed ward.
49. Two-bed ward.
50. Private room.
C. Clothes closet

A SUCCESSFUL SMALL COMMUNITY HOSPITAL

Economy and Loyalty of Employees Factors in Success—Creditable Record of Holden Hospital, Carbondale, Ill.

The following letter, received by THE MODERN HOSPITAL from Mrs. Gertrude Allen, superintendent of the Holden Hospital at Carbondale, Ill., tells an interesting story of the way a community need has been met in the towns of Carbondale and Litchfield and the surrounding counties:

"The Holden Hospital of Carbondale, Ill., is the successor of the Holden Memorial Hospital of Litchfield, Ill., and the Amy Lewis Hospital of Carbondale, Ill. It is operated by the Woman's Home Missionary Society of the Southern Illinois Methodist Conference.

"The hospital accommodates thirty patients and has a modern operating room, sterilizers and x-ray. The charge for ward beds is from $10.50 to $12.50 per week; private rooms from $15 to $20 per week. The operating room fee is $5.00, and we charge for all medicines and dressings. The doctors furnish their own catgut and buy their rubber gloves from the hospital.

"Last year our free bed work amounted to a little over $1,000. Up to the present time I have had no difficulty in meeting all expenses. We depend entirely on the hospital earnings and various donations that are sent in from the different societies of the Southern Illinois Methodist Conference.

"I consider it a matter of economy to employ enough nurses and other help to care for the patients and equipment well, and employ only those who are loyal and interested in the success of the hospital to the extent that they are not wilfully wasteful. Economy is taught and carried out from the kitchen to the superintendent's office. Great care is exercised in buying in all departments and especially in the kitchen."

The hospital was opened for patients May 1, 1916, and the year's report is interesting:

Total earnings of the hospital	$ 9,452.20
Donations	1,285.75
Total	10,737.95
Total expenditures of the hospital	10,096.85

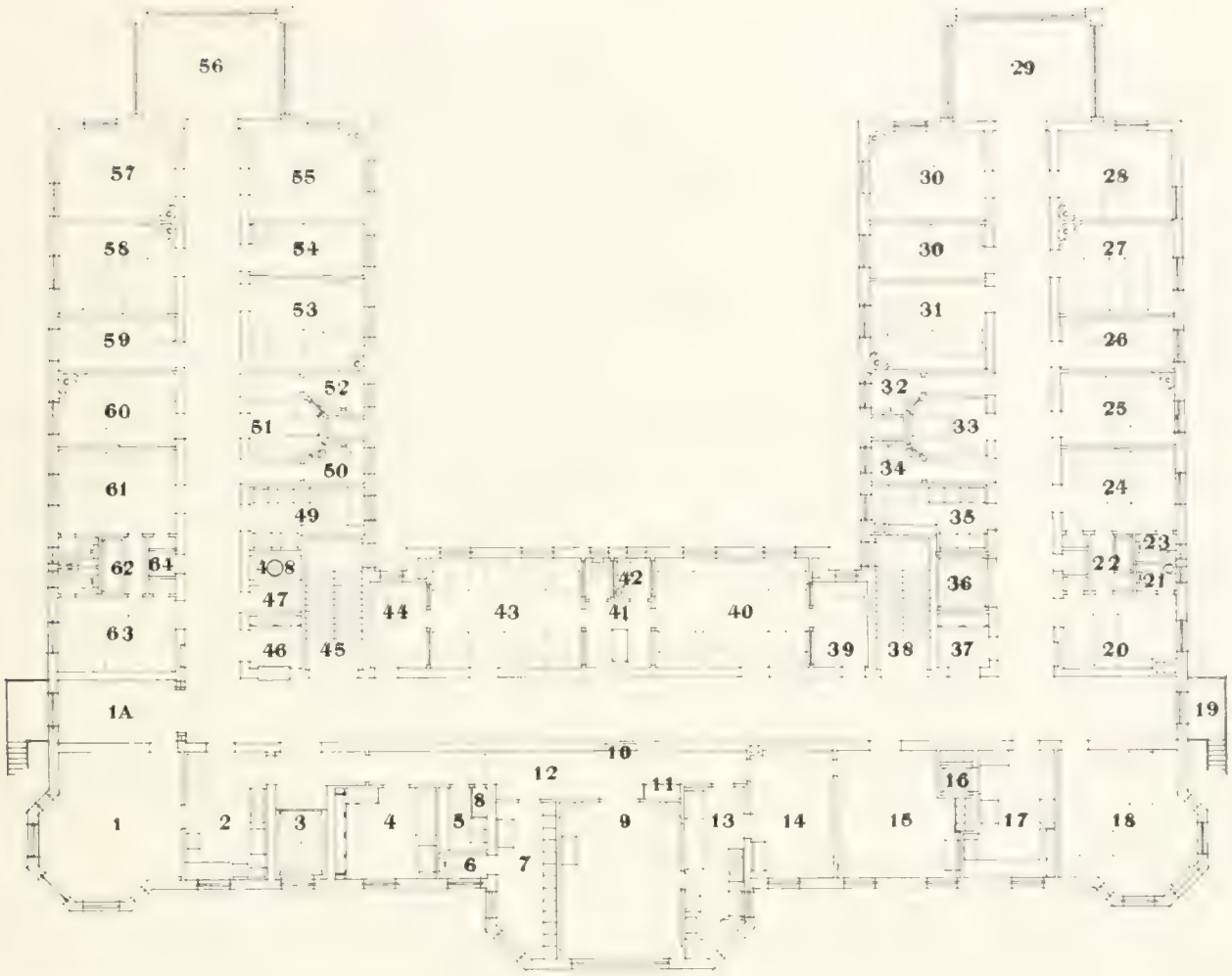


Fig. 7. Lutheran Hospital. Third floor plan.

1. Operating room.
1A. Etherizing room.
2. Sterilizing room.
3. Elevator.
4. Nurses' work room.
5. Sink room.
6. Doctors' toilet.
7. Doctors' wash room.
8. Blanket warmer.
9. Operating room.
10. Instrument case.
11. Supply case.
12. Operating passage.
13. Sterilizing room.
14. Small operating room.
15. Eye, ear, nose, etc.
16. Dumbwaiter.
17. Diet pantry.
18. Three-bed ward.
19. Fire escape.
20. Private room.
21. Toilet.
22. Bath.
23. Toilet.
24. Private room.
25. Private room.
26. Private room.
27. Two-bed ward.
28. Private room.
29. Sun porch, glazed.
30. Private room.
31. Two-bed ward.
32. Men's toilet.
33. Bath.
34. Women's toilet.
35. Nurses' duty room.
36. Freight elevator.
37. Nurses' station.
38. Stair hall.
39. Quiet room.
40. Children's ward.
41. Bath.
42. Sink room.
43. Children's ward.
44. Quiet room.
45. Stair hall.
46. Nurses' station.
47. Incinerator.
48. Smokestack.
49. Nurses' duty room.
50. Women's toilet.
51. Bath.
52. Men's toilet.
53. Two-bed ward.
54. Private room.
55. Private room.
56. Sun porch, glazed.
57. Private room.
58. Two-bed ward.
59. Private room.
60. Private room.
61. Private room.
62. Bath.
63. Private room.
64. Janitors' closet.
C. Clothes closet.

In this time 362 cases were treated and the amount of free work done totaled $1,002.

This little hospital, which was formerly a residence and is beautifully situated for hospital purposes, was taken over and operated by the Woman's Home Missionary Society of the Southern Illinois Conference and has definitely proved that such a hospital cannot only fill the community need of hospital service but under good management may pay for itself and do some free bed work with only a reasonable amount of help and support.

The Tommies in hospitals, it seems, do not always take the patronizing efforts of great ladies to cheer them up with the utmost seriouness. The following tale is told of a sorely wounded man in one of the London hospitals. An imposing lady passing through said, "Why, my poor man, are you wounded?"

"Oh, no, lady," replied the heap of bandages on the bed, "You see it was like this. Our orderly, he was that untidy. Always being reprimanded for it, but it didn't do no good. One night he went out into No Man's Land and ate an orange in the moonlight. Left the peelings all round, he did. Next day we was ordered over the top and just as I went over I slipped on one of them orange peelings and cut my head on a salmon tin. That was how it was, lady."

A passing visitor in a Canadian hospital said to a patient, "So you've lost your leg, my poor man?" "No, ma'am," said Tommy, "it's under the bed."

Infection

A baby smiled in its mother's face;
The mother caught it, and gave it then
To the baby's father—serious case—
Who carried it out to the other men;
And every one of them went straight away
Scattering sunshine thro' the day.

The
MODERN HOSPITAL

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SUBSCRIPTION.

Domestic postage, $3.00. Foreign postage, $3.50 (15 Shillings). Single copies, 35 cents.

Domestic rates include United States, Cuba, Mexico, Porto Rico, Canal Zone, Hawaii, and Philippines.

Contributors, subscribers, and readers will find important information on advertising page 42.

After the War—What?

There are approximately seven thousand hospitals in the country; they have cost a lot of money to build and equip and organize, and they are costing a lot of money to administer—the details do not so much matter for the purpose we are about to discuss. Many of these hospitals are not full of patients at all times; some of them are never full; there are many other hospitals which are overcrowded all the time and that never have enough room for the sick who apply to them for care. Many of these hospitals, sometimes those that are most needed, are just one jump ahead of the wolf, while others that are not greatly needed in their community have money to waste.

This war is to be a great leveler; it is to be an epoch of stock-taking, of inventory. Huge upheavals are taking place; what would have been socialism—even rank anarchy—two or three years ago, is now a conservative, restrained, and entirely commendable method. In the cataclysm through which we are passing, the hospitals are not to be isolated; rather they must participate and also pass through the fire of regeneration. Moreover, radical methods that would not have been tolerated in another day are now meritorious and justifiable. Why, then, is this not an opportune time for us to begin to think about hospital reconstruction—not the reconstruction of building, not the reconstruction of the organization of medical staffs and administrative forces—but the reconstruction of the whole system of hospitalization of the people?

In Germany before the war, every patient who entered a hospital was paid for; there were no charity patients; either the municipality or province or the state or a commercial corporation paid for the patient. There was no overlapping of energy or effort or expenditure, because hospitals were built where and as they were needed, according to the dictates of a governing board, which was maintained for the purpose, whose personnel was trained for the business that it had to do, and whose members retained their posts as long as they gave good service to the public. It might be asserted that, since we are at war with Germany, it is not an auspicious time to quote Germany's methods of doing things. The answer is, that because we are at war with Germany, and because we are finding the task so huge, we should use, where we can, the efficient methods which Germany has become great enough to oppose us as she had done; and we cannot do better just now than to think about the efficiency of Germany's system of hospitalization.

The German plan is autocratic in a measure, but not altogether so, and we need not accept any part of the autocracy in the process of getting what is good for ourselves out of Germany's hospital plans.

There has been in our hospital world a tremendous overlapping, the expenditure of huge sums of money, in energy that was of no good use. Roughly speaking, we have expended five dollars, perhaps even ten dollars, that can be considered as having been utterly wasted, for every dollar that has gone to the spot and done the work for which it was intended. This country is dotted over with partially worthless, useless, and impractical hospital buildings, and there are thousands of communities that are deprived of hospital care for their sick—solely because some individual or group of individuals does not choose to give the money for the purpose.

Why would not something like this be a good thing: Have one of the present agencies of the government, like the Public Health Service, or a new agency to be created for the purpose, take over all the hospitals of this country, to be administered as a great army is commanded from one central head, and then by the distribution of subordinate authority, divide the responsibilities. Ask Congress to pass a law imposing a tax for hospital purposes, the sum of this to be established from year to year on a basis of hospital

population and the per-capita cost of administration. The hospital would be administered by a small technically trained governing board. The board would have the right to order any given hospital closed if it were not needed; it would have the right to order, say three hospitals serving a single community, to combine under one administrative head. It would have the right to visé and approve plans of hospital construction, when a new hospital was to be built or alterations were to be made. It would have the right to order the employment of a new executive officer or administrator, when it ascertained that the present administration was not competent.

This board would have no right whatever over independent or private hospitals. The only punishment for disobedience of its orders would be the withholding of the government per-capita for administration.

This board would not assume the function of finding funds to create new hospitals or to find sites or to appropriate building funds; this function would be left to the communities, it being definitely understood and written into the law that only those hospitals could receive government funds that choose to come in under the government law—just as the banks of the country can now come in or stay out from the operations of the banking reserve law.

This country can never again be as it was before the war; we can never again get back to our old slipshod, wasteful, and empiric methods. And if we are not to go back, we must go forward, and if we are to go forward, we must go forward constructively, building as we go.

This war is to develop and almost complete the hospitalization of the people of this country. We are going to be short of doctors when this war is over, either because of the wastage of the war, or because of the constantly diminishing number and the constant elevation of the standards in the medical schools, and the consequently lessening number of graduates in medicine. If the doctors are to be fewer in number, then we must employ methods that conserve the energies and activities of those who practice; and for this reason it will be necessary for us to assemble the sick where they can be most easily cared for by the smallest number of doctors.

Precisely the same situation holds good in regard to nurses; there was a great dearth of nurses before the war began, and if the hospitals grow in number, as they are bound to grow, the dearth of nurses after the war is to be tremendously increased, and we must husband our resources in nurses by assembling patients in hospitals. The same thing is true in regard to interns.

This war is to develop, as the fast has never been developed before, that the sick man or woman or child cannot possibly get the best diagnosis and the best treatment that modern medicine now has to give, except in a hospital,—because the laboratory, the x-ray, and the thousand and one auxiliaries to diagnosis, are assembled nowhere except in hospitals. And the same is true of the essentials to the modern treatment of disease—those are assembled nowhere except in hospitals. Hence, after this war is over, every sick man, woman, and child will have a right and will insist upon the right to be cared for in a good hospital. If these things are true—and they are true—then in another five years at least five times as many sick people will be cared for in hospitals in this country as could now be cared for, and in ten years the number will be quadrupled.

Already the financial burden of the hospitals is tremendous—almost three-quarters of a billion dollars annually, for maintenance and new construction, and from at least 50 percent of this full efficiency is not obtained. In other words, the one-half billion dollars that are now being expended for the care of the present hospital population will take care of a much larger number of sick and injured if properly expended even under our present administration. If we change that system of administration, as we have suggested above, the amount of money now expended would well take care of a vastly larger number of sick that we are now taking care of.

The home care of our present sick population demands an immeasurable, but undoubtely huge sum of money annually.

We have discussed often the recent hospital survey of this country which showed that approximately 12 percent of the sick people are being taken care of in hospitals and 88 percent in homes. If it costs one-half billion, the annual expenditure for maintenance of present institutions, to take care of one-eighth of the sick population, then mathematically, it would cost four billion dollars annually to take care of the total sick population. But we know perfectly well that it costs more to take care of a sick person at home than it does in a hospital, so it is costing vastly more than four billions annually to take care of our sick, and for this money we are getting nothing or practically nothing in the way of the thousand and one auxiliary health services for our people that the hospitals are able to give—service in preventive medicine, service in sanitation and

hygiene, education in proper methods of living, clothing, housing and foods.

Why not pool this sum and expend the pool as a national obligation? Moreover, at the present time the great burden of home care of the sick is falling hardest on those the least able to stand it. Why not shift the burden and by the pooling of our hospital fund, by way of taxation, let the rich help to take care of the poor?

Some of these things are really worth thinking about and the time to begin to think about them and discuss them is now.

Compensation for Interns

The question of compensation for interns is necessarily many-sided. Hospitals vary greatly in size and also as to the character of their work. Much depends upon what a hospital has to offer in the way of educational advantages, what service it expects the intern to render, and also the amount of responsibility placed upon him.

Almost without exception the advantages of an internship in the large public hospitals, other large general hospitals, especially those affiliated with universities, and certain special hospitals, have been considered so desirable that no compensation, other than board, room, and laundry, and possibly uniforms, has been customary. In the past, during his freshman year the medical student would begin to plan for an internship in the best hospital available immediately after graduation, and the competition for such places has been so keen that salaries were neither offered nor requested. Certain hospitals requiring interns to carry unusual responsibilities or not offering certain desirable opportunities for experience have always had to pay for intern service.

The recent demand of the interns in the St. Louis City Hospital (a general and emergency hospital of over eight hundred beds) for a salary of $25 per month, in addition to board, room and laundry, brought the compensation question prominently to the attention of many hospital administrators throughout the country.

To many the question of compensation has been involved with that of service. A number of hospitals already paying $25 to $50 per month with a bonus arrangement of $100 or more for the completion of a year of service and offering good opportunities for intern experience, have had difficulties annually in the service rendered by some of their interns. Many interns, of course, strive to perform their full duty at all times, but some will always fail to give good service and others will leave at almost any time regardless of agreement or bonus, if they think they see something better. The arrangement, therefore, of a written agreement, salary with bonus and exceptional educational opportunities has not provided the uniformly good service which hospital administrators desire and to which the sick are entitled.

The states of Pennsylvania, New Jersey, North Dakota, and Rhode Island are already requiring not less than one year of intern experience in a satisfactory hospital after graduation before issuing a license to practice medicine in these states, and the same requirement will become effective in Illinois and Michigan during 1921 and 1922 respectively. Also, the medical colleges of the University of Minnesota, Leland Stanford, University of California, Northwestern University, University of Vermont, and Rush Medical School have already made a hospital year after completion of school work a requisite before granting a medical diploma. These movements are rapidly gaining ground, due to the fact that they are primarily planned for the best interests of the patient and secondarily for the betterment of the individual physician.

Shall we ever be able to obtain uniformly satisfactory intern service until one or other, or both, of the above-mentioned plans are more widely adopted? Perhaps certain hospitals should be more liberal in certain forms of compensation. We know from experience that compensation alone will not correct our most important intern troubles.

We believe that it will be to the interest of both the physician and the hospital, and decidedly to the interest of the public, when medical requirements are such that those contemplating the study of medicine will have to arrange their plans for a year of good hospital work before being permitted to assume private practice. Then fair and satisfactory service will be given and the question of compensation can be easily adjusted. We will have better physicians, better hospitals, no one will lose and everyone, including the physician, patient, and, last but not least, the ever-burdened hospital administrator, will share in the returns.

The First Hospital Survey of the American College of Surgeons

Details of the first hospital survey of the American College of Surgeons are now in possession of the hospitals. We are glad to note that it lays primary emphasis on the care of the patient, and that the spirit back of the survey is free from muck-raking and fault-finding.

The plan is a drive at too much surgery, at in-

competent surgery, and at indifferent, lax, lazy, and careless diagnosis and treatment. The factors in hospital work which are the basis of the standardization program are: the keeping of case records; the utilization of these records as tests of efficiency; the clinical laboratory facilities; and character of the staff.

The surgical point of view may appear to predominate in the first questionnaire. This, of course, would be only natural. If this apparent predominance is found to be actual—if other equally important considerations have been somewhat overlooked in favor of surgical factors—this want of balance will undoubtedly be promptly corrected. In fact, the survey will undoubtedly be a source of education as well as information to the college itself.

About eight hundred hospitals to date have responded to the first inquiry of the college for data. Practically all hospitals worthy of the name will without doubt gladly cooperate in this survey. An awakening of public interest in hospitals is certain to follow. "I begin to feel a new faith in human nature," writes the head of one hospital concerning the work. This newly awakened interest means progress.

The Nursing Profession and the National Crisis

Those who try to keep watch and ward of the world's health and welfare know that a crisis exists which the nursing profession of this country must meet or be weighed in the balance and found wanting. From Florence Nightingale's time down to our own, we have been learning what the skilled care given by a woman's hand has come to mean, and now is the time when that skilled care is needed as never before.

We have several millions of our own men in uniform, here and overseas, who must be cared for through the ordinary illnesses which will come to a certain percentage of them, the communicable diseases, and the casualties which are beginning to come and which will continue to come while the war lasts. We have the care of our civilian population, our hospitals and public health welfare to account for, and again, stretching out ahead of us in almost an endless line, we have the aftermath of the war, with its wounded and tuberculous, its venereal diseases and diseases of malnutrition in the refugee and the civilian population of Europe, and the reconstruction and rehabilitation of the disabled soldier to fit him for civil and industrial life again. This means nursing and nurses.

To meet the great need, here and "over there," we have at the present writing about fifteen thousand women enrolled who have met the requirements laid down by the American Red Cross. Only about ten thousand of these are ready and willing to do service. We have a little more than another fifteen thousand graduates who could qualify, but who have not enrolled, and back of that again another thirty thousand or more who cannot qualify without further education to meet the Red Cross requirements and the requirements for examination by their own state boards of registration. Varying estimates of from thirty to fifty thousand have been made as to the number of graduate qualified nurses needed to take proper care of patients, both civil and military.

The national nursing organizations, through their representatives on the Council of National Defense, with the support of the national medical and surgical organizations, ask us under no consideration to lower the standards of nurses' training or to shorten the courses in the training schools. The nursing profession has worked and fought for those standards and has earned the right not only to take pride in them as admittedly superior to those of Europe but also to insist that they be not abrogated. On the other hand, a national need exists—perhaps even, God forbid, a national disaster—and the people of war-stricken Europe are stretching out their hands to this country for help. Nor should it be overlooked that the very standards in question may be imperiled by failure on the part of the nursing profession to meet the siuation. Those who doubt this have only to look abroad.

The insufficient supply of trained nurses in Europe has produced situations some of which are intolerable and some ludicrous. There have been women in charge of hospitals and giving orders to the trained workers whose only qualifications were good will and patriotism backed by their rank or social prestige. Many of us are familiar with the story of the countess who, when asked by the nurse in charge of a ward to disinfect a bed which had been occupied by a patient who had a serious infection, in order to prepare it in a hurry for a wounded soldier said, "I really couldn't you know; I have an engagement for tea," and that of another untrained society head worker who, when the nurse under her remonstrated at her request to get a man suffering from shell-shock on his feet, said, "Why, his feet are not shocked, are they?" Does the nursing profession of this country wish to see such responsibility usurped by the untrained, because the trained persist in shutting their eyes to the actual conditions? What are the government and the heads of the nursing profession doing and what are they going to do to meet those conditions?

It has been suggested, among other things, that the training schools admit for an eight-hour day

and for the full three-year course young women who live at home. Again, the suggestion has been made that nurses' aids would have to be put in service to meet our growing needs. Here, however, comes the thought of the impossibility of keeping order and discipline if admittance be given to the type of woman of leisure who would come in with the fixed belief in her own social superiority to the average trained nurse. Would it not be better if, when the time comes that we must call on the untrained women for help, we should recruit our aids from the nurses who cannot fully qualify and from the women of the substantial so-called middle class, if the term may be permitted—the farmer's daughter, who knows how to work and keep her milk-pails clean, the girl who has worked in an office and knows the discipline and order of business, and the woman from a home that has known its own responsibilities—and that all these should earn their shoulder straps under the trained worker who meets all standard requirements and who will have a definite rank?

And now the question before the house is this: Are we doing all that we can do, and as fast as we can do it, in this great welter of death, destruction, and disease to do our share to save and conserve life, and to make sure "that government of the people, by the people, for the people, shall not perish from the earth"? What are we doing to meet this necessary demand for skilled nursing care—and as promptly as possible?

Again Our Country Calls

It has been the privilege of many readers of this magazine to be engaged in one or more of the several branches of war work open to civilians. Practically every hospital in the United States is represented in active service by members of its nursing, medical, or administrative staffs. In fact, the hospital field has responded to the nation's appeal in such numbers that many of those physicians, nurses, and superintendents who have not had the satisfaction of serving with the colors are doing double duty at home. Certainly those who do the work of the hospitals cannot be charged, as a class, with failing up to this time to fulfill their obligation to the country. Neither will any hospital worker say that he has done all that he can afford to do or intends to do in this war for humanity and civilization.

Within a few days after this issue of THE MODERN HOSPITAL has been printed our Government will be soliciting subscriptions to a new Liberty Loan—a loan which may enable it, in cooperation with its associates in the war, to carry to conclusion the great struggle to make the world safe for democracy. The hospital people will meet their responsibility in this instance as they met it in May and in October of 1917. The fact that one subscribed to the first or second Liberty Loan, which is commendable in itself, has little significance so far as the present needs of the Government are concerned. IT WANTS MONEY NOW! On the other hand, those who have not yet bought Liberty bonds will not want to miss this opportunity to have a part in the great undertaking to which America has so gloriously set herself. For the civilian the Liberty bond is a mark of service of which the purchaser has a right to be proud. Hospital officials, because of their influential positions, will be able to do much in the way of promoting the sale of the new bonds, and it is assumed that they will impress on their doctors and nurses how important it is that every loyal American should subscribe to this loan according to his means.

The Liberty Loan is not a donation or a gift. It is, in all respects, an investment bearing a liberal rate of interest and is backed up by the promise and resources of the strongest government in the world. The privilege of buying a bond on small installments makes it possible for practically every American to participate in this loan, and it is the duty of everyone who can participate, even in the smallest way, to do so. He owes it to the country, to the men in the trenches, and to posterity. Some sacrifice may be necessary, but a people unwilling to make sacrifices does not deserve to win a war.

After all, the greatest sacrifice that a civilian can make in this war is so small beside the sacrifice that is made by the men and women who risk their lives at the front, that no one should hesitate to do his bit in the largest way that his circumstances will permit. THE MODERN HOSPITAL is confident that those who conduct the hospitals will not hesitate to go over the top with their dollars in this Third Liberty Loan Campaign.

Volunteer Workers in the Out-Patient Department

We have discussed in a preceding editorial the place of volunteer workers in the hospital. A very encouraging report from Dr. Charles Hendee Smith, published among the leading articles this month, on the successful use of volunteers in the out-patient department of the children's medical division of Bellevue Hospital, confirms our faith in the value and practicability of this device for economizing the time and efforts of the medical staff. We shall be glad to hear from other institutions that have tested this method of utilizing the services of lay people.

Contract has been awarded by the Alexander Sanitarium, Abilene, Tex., for the erection of a $40,000 building.

AN ARGUMENT FOR BEAUTY IN A HOSPITAL

The Effect of Color on Mental and Physical Wellbeing—A Study in Psychological Reaction

BY HENRY J. DAVISON, LL.B., NEW YORK.

Dear reader, may I ask you to hold up your hand? Look at it carefully, work each finger separately, and then all together. See the marvelous coordination, the delicacy, strength, and efficiency. Look at your hand as you have never looked at it before. For lo, in your hand you have a complete picture of a modern, efficient hospital—an efficient unit, made efficient by five members. To be sure, you have thought of only four members. You have forgotten the fifth finger, and to that extent your hospital is maimed. Let us examine this figure of the hand as representing a hospital a little closer. The five fingers are: doctor (medical), superintendent (administrative), trustees (financial), patient, esthetics (psychological).

The first three fingers exist for the patient's physical welfare, the last finger for the patient's mental welfare. Opposite the word "patient" I have put no descriptive terms, for the patient is the whole thing—for him the hospital exists. If this point is denied my plea breaks down. Surely hospitals do not exist for the doctors per se—nor for the superintendent—nor for the trustees.

This article is a brief for the psychological welfare of the patient. The patient does not leave his mind at home, or put it in the wardrobe with his clothes. He takes it to bed with him, and it is with him hourly in pain, weariness, ennui, in sickness and convalescence, and, what is more, this brain is more sensitive, more impressionable, and has a greater effect upon his body, than in health. This brain is either an ally or an enemy. It is not a neutral. When the doctor treats it as neutral it stabs him in the back. Don't ignore your patient's mind, doctor, for the patient's mind won't ignore you. The physical will respond to an eased and pleased mind.

Now, while I hold a brief for art and beauty in a hospital, I know my words will fall on worse than deaf ears—even scornful ears—if there is on my part no intelligent understanding of sickness (viz., the patient) as it really is, and of the practical problems of a hospital—viz., medical, administrative and financial. For the hand is a living unit; each finger is coordinated and if not is subject to amputation.

First, sickness: "Sickness," as a medical friend said to me in discussing this very subject, "is a disagreeable thing and the fact must be faced and sickness borne philosophically; it cannot be made agreeable. Life with its occupations, routine, habits, customs, interests, family ties, and friends is exchanged for discomfort, pain, an artificial life, with a routine irksome even when understood, a routine watched over and administered by a machine nurse, efficient but disagreeable, or a nurse agreeable but inefficient—the efficient and agreeable ones do not last long, they marry." To the foregoing list of disagreeables he might have added disagreeable sounds, sights, and smells—in a word, every sense ministering discomfort to mind and body. The facts cannot be denied, but the deductions can. Because sickness is so disagreeable, the more reason for mitigating its ills. To deny this would be an indictment of the modern hospital. It would be to say virtually all that we have done in ligatures, anesthetics, sedatives, sanitation, antiseptics, ventilation, etc., is useless. Let us return to the hospital of, let us say, fifty years ago, described with photographic accuracy by Henley.

I

ENTER PATIENT

The morning mists still haunt the stony street,
The northern summer air is shrill and cold;
And lo, the Hospital, grey, quiet, old
Where Life and Death like friendly chafferers meet.
Through the loud spaciousness and draughty gloom
A small, strange child—so aged yet so young!
Precedes me gravely to the waiting room.
I limp behind, my confidence all gone.
The grey-haired soldier porter waves me on,
And on I crawl, and still my spirts fail.
A tragic meanness seems so to environ
These corridors and stairs of stone and iron,
Cold, naked, clean, half workhouse and half jail.

II

WAITING.

A square, squat room (a cellar on promotion)
Drab to the soul, drab to the very daylight;
Plasters astray in unnatural-looking tinware;
Scissors and lint and apothecaries' jars.

III

INTERIOR

The gaunt brown walls
Look infinite in their decent meanness.
There is nothing of home in the noisy kettle,
The fulsome fire.

The atmosphere
Suggests the trail of a ghostly druggist.
Dressings and lint on the long, lean table—
Whom are they for?

The patients yawn
Or lie as in training for shroud and coffin.
A nurse in the corridor scolds and wrangles.
It's grim and strange.

Far footfalls clank.
The bad burn waits with his head unbandaged
My neighbor chokes in the clutch of chloral,
Oh, a gruesome world!

Every step that has been taken in making a modern hospital is right. The evolution has been a logical one. But every step has been met by barriers, opposition, and even ridicule. Hospitals have had their growing pains. What doctors, superintendent, and trustees have done is good, but why stop with four fingers? Why not perfect the hand? Now let us discuss the subject of esthetics from the standpoint of doctors, superintendent, and trustees.

Surely neither doctors, superintendents, nor trustees object to paint on a wall. What objection can there be to having the tone, texture, and quality pleasing? There are only three colors, red, yellow, and blue, but there are three million combinations. Most color put on walls is mud. It has no life, clarity, texture, or charm. Let the superintendent and trustes take heart. It costs no more to paint a wall right than wrong, nor does it cost more for maintenance. If the wall has charm, the doctor surely cannot object. To be sure the patient who has to stare at it day after day will know the difference and respond to it. If I could only paint two wards, one right and one wrong, and put the doctors, superintendent, and trustees in the wrong one for a week and again in the right one for a week, the hospital would be repainted immediately and an enthusiastic band of missionaries would march militant preaching the gospel of the art of plain painting.

The question of a bit of color in simple curtains is a little more complex. Curtains cost money. So does sanitation and modern construction from foundation to cornice. But because these are for the patient's good they are

amply provided. Objection may be made that curtains catch germs. A hospital is the most germless place in the world. If germs are around and curtains will catch them, by all means have curtains; catch 'em and drown 'em.

The sole question is whether or not patients want color and in curtains. The hospitals that have tried them will answer with a most emphatic "Yes." In discussing color of furniture the superintendent will bring up the question of dust and put in his plea for white furniture. As I write I see in my room and the one through the open door, black oak, English oak, dark mahogany, and white. On the black I can see every speck of dust, on the mahogany less dust, on the oak still less, on the white none. But as I rub my hand over the white, it is easy to see that the white is a lie and a cheat, for it said, "No dust," and there is dust aplenty. Let any doubter take a room with white trim and a black piano and see for himself the fallacy of the sanitation of white paint. French and Chinese peasants are not necessarily clean because their linen is immaculate. The whited sepulchre is older than the white paint heresy. For instance, suppose the beds in a ward were of a delicate green or pink enamel. They would be as durable as white, yet, while the color itself would be delicate, the number of beds would show strength because color intensifies in mass. Undoubtedly the room would be more cheerful, dainty, and lively, than if in white without being exciting, and yet would be equally sanitary.

If this article were intended to be constructive and to give prescriptions for making hospitals esthetically effective, much might be added to the foregoing. But this article is only a suggestive argument for the fifth finger as a necessary link in hospital evolution. Enough only has been said to show a sympathetic appreciation of the other four fingers, or rather three fingers, for more must be said about the fourth finger, the patient—the crux of the whole question.

The subject is one of mental reaction to our surroundings. We react through our senses. We react chiefly through our eyes, but the other senses are channels we cannot ignore. Thus the sense of touch. All doctors and nurses know this and hospital training has specialized on bed comfort. The sense of smell is perhaps of all the senses the most acute in its effect on the mind. There is no key that more quickly unlocks the mind than an odor and none that lights so vividly the chambers of memory. Here the hospital is and always will be handicapped. Its odors are unfortunately associated with sickness and death. What can't be cured must be endured. If, however, such odors could be overcome in the entrance and reception rooms, a great deal of good could be accomplished, for the patient would enter with cheer instead of fear gripping his heart. Nor must ears as a ministry of comfort or discomfort be overlooked. Many a patient paying large fees for doctor, room, and nurses makes just complaint of slamming doors, partially opened doors, and of unthinking persons holding conversations too easily overheard. An important observation must be made in discussing the ear, viz., that the doctors rely on this organ for their success in practice more than any other organ, for the power of suggestion, which every doctor uses consciously or unconsciously, and which is the chief stock-in-trade of the family physican, is conveyed to the patient by speech through the channel of the ear.

A word must be said about the palate. The hospital kitchen is more easily criticized than corrected. This subject is too beset with difficulties for the layman to venture criticism. More often the fault is with the patient than with the cook. Mention is made of these avenues of sense only that the eye, the most important, may stand out in bold relief.

We return to the eye. Scientists now tell us that 65 percent of all knowledge the human mind possesses comes through the eye. And the greater proportion of this eye knowledge comes through color. Leaving out the printed page (which in one sense is form) all eye knowledge comes through either form or color. If this were an article on interior decoration, form in its reaction on the human mind would constitute an important part of our discussion. But form in a hospital is limited to certain elementary and fixed lines, viz., rectangular rooms without ornament, beds in a row, and, in private rooms, simple stereotyped furniture placed against the wall. And yet, as an illustration of the reaction to the mind to form, let us take the following: Suppose someone sends a bunch of roses and marguerites. How clear and vigorous the contrast of the red and white! How wholesome and vital are they in their suggestiveness! What quiet messengers telling us to be of good cheer! But if these same flowers were woven into the form of a funeral wreath they might literally scare a sick sensitized mind to death. The main question is how do people in normal health react to color. That they do react is proved by:

1. Science. There has been invented and used for experimentation a device which consists of an attachment to go on the pulse and a dial, which records the fluctuations of the pulse, as the person is subjected to various colors, depending upon whether the color depresses or excites. The fluctuations of this dial are amazing.

2. Language. Color has become a part of the warp and woof of the English language. Thus we say "a red-letter day," "as blue as indigo," "black Monday," "a brown study," "a drab day," and "a greenhorn." These words would not have come into the language if the effect of color was not a common heritage.

3. Historical. The colors used by Marie Antoinette and Louis XVI. were no more accidental than those used by Henry VIII. or Queen Elizabeth. The tints and subtleties were characteristic of the lives and times of Louis XVI., as were the virile and direct pure colors of red, yellow, and blue indicative of the times and tastes of Henry VIII. Imagine Queen Elizabeth in a Marie Antoinette room. She would have used her very direct and voluble English, not sufficiently elegant to print here. We can easily imagine how Marie Antoinette in an Elizabethan castle would have gone out as a mouse under a vacuum. We cannot repress a smile when we think of Henry VIII. and Louis XV. or Louis XVI. consorting in the same room. By such extreme historical cases do we realize the truth of the reaction of the mind to color. But the best witness is the decorator's experiences, and, if I were to quote freely from my notebook of the effect of color upon my various clients, the entire article would not suffice. I quote a few instances. One of my clients is made violently nauseated when subjected to a certain tone of red violet. If this happens to her in health, what would it do to her in sickness? Two other clients, full-blooded men, presidents of vast corporations, cannot work with any repose of mind at home or in the office if not surrounded by blue. Both of these men are multimillionaires; neither is effeminate and both control millions, which they would not do if they were not men of power and ability. Therefore, there is nothing fantastic about this illustration. Another client had a gray room, done in panels, a room formal, modern, severe, cold, lifeless. She is naturally talkative, cheerful, and bright. But when in this room she found herself

stilted and ill at ease. She painted the wall a different color and put in bright chintzes and to her surprise became talkative, chatty, and even brilliant. All of the foregoing in reference to the eye has been along the line of esthetics, which, of course, forms the basis of this article, but a most interesting article could be written on eye strain from the physical, rather than the psychological, standpoint.

What has been said thus far may lead the reader who has never given thought to this subject to believe that I am fantastic in my reference to the effect of color on the mind. Should this be so, it is not amiss to ask the reader to consider mental reactions to other things rather than color, such for instance as cities. It may be laid down as axiomatic that if a person is not thoroughly absorbed in some dominating thought, every word spoken creates some kind of an impression or reaction on the human mind. We cannot say to a person, "Philadelphia," "New York," or "Boston" and get the same reaction. We cannot say "New York" and "Hoboken" and get the same reaction. The reaction of each place may be different upon various minds, but no two people can think of Hoboken and New York as the same. The mental picture is bound to be different. We cannot say "Annapolis" and "West Point" and get the same mental reaction. When we say "Wall Street" there is not brought to mind the picture of a church at the end of a street, but rather we think of finance, pleasantly or unpleasantly. "High finance" some people may call it, but if we have been the subjects of it we may be inclined to call it low. We might add illustration upon illustration and enlarge upon this point of view with considerable amusement as well as profit.

We react to people. There are certain people in whose presence we can be but a few moments without feeling sucked as dry as a bone. They act upon us like vampires. Then there are people with whom we come in contact for only a moment who impress us with a sense of vitality and kindness. Our prejudices, our likes and dislikes, our friendships are often based on nothing tangible. It is not what the people say, and oftentimes not what they do, but what we think they are, and why we think they are a certain thing it would be almost impossible for us to analyze or state. We are merely conscious of a reaction, pleasant or unpleasant, a reaction which has come to us through our senses, and probably through the eye.

If the whole question of reaction were to be summed up, might we not with some degree of scientific accuracy say that life itself was reaction? Certainly reaction is the only evidence of life. Stick a pin into a dead man and he does not react. Stick a pin into a live man and he does.

What has just been said may seem sententious. But the commonplace is often overlooked, or at least the logical deductions from it are not drawn.

Once again, if reaction is the chief phenomenon and evidence of life, then how are we going to ignore color, which forms the greater part of the 65 percent of knowledge which comes through the eye to the human mind? How can a hospital afford to ignore personality, viz., the likes and dislikes of its patients? Do you wish your patient to act favorably or unfavorably? Which will effect the quickest and best cure? Which will give your hospital the best record? Which will make your hospital friends and possible donors? And has the patient nothing to say about beauty? Has he no right to demand that his tastes and esthetic appetites shall be satisfied? The doctors in the hospitals are the second largest hotel-keepers in the world. The movement of patients going to hospitals when they are sick or expect to be sick is growing by leaps and bounds. Do you realize that millions are spent annually by patients in the United States in hospitals?

Thus I finish my plea. Constructively I have little to say. Each hospital has its own decorative problems. One hint of a decorative scheme might not be amiss. I see a ward with walls of very warm dove gray; a row of enameled beds of apple-blossom pink; a runner of pink carpet down the center of the room (if carpet is not allowed, then pink rubber); in the center of the room an aquarium with goldfish; a few potted plants in one or several windows, or in one window a small greenhouse built outside; some dimity or swiss curtains, and if possible a grate fire with polished brass andirons. In this picture we have charm and a suggestion of Spring, and new life, color not exciting to the patient's mind, and within reach of the hospital purse, as well as being sanitary.

A few public hospitals have carried out all and more than all that has been argued for in this article. Private hospitals without number have spared no expense in providing pleasing environment. I am waxing bolder as I finish this article with two suggestions:

First, spend some money on your approach, decorating and furnishing your vestibule, rotunda, hall, reception room, and office. Let these public rooms suggest human beings, not cases. Let their spirit be that propounded by Virchow, "In treating the patient do not forget the man." Let the man who enters the front door, be he patient or friend of patient, sniff life and hope. Let the first impression be good. Let him get the impression of gladness. Too many hospitals suggest Dante's words, "Abandon hope all ye who enter here."

Second, I now recommend something too advanced for the present. But he is safe who prophesies its coming, viz., a private room decorated on purpose for its occupant, his or her color on the wall, a few pieces of the favorite furniture, and a few cherished pictures from home, so that as the patient revives from an operation, or returns to consciousness from a long delirium and wavers between life and death, he shall be summoned by gentle messengers of memory back to life, and give heed to their loving beckoning. The doctor has no tonic like this. Here is an alembic of life, a magic wand. Let this not be thought fanciful. Would any man who loves his wife, or mother who loves her son, stop at such an expense if he could afford it? Nurses and the best doctors he pays gladly, why not a few weeks' extra room rent, and even a premium to boot, if by so doing he can perchance tip the hesitating scale of life?

Doctors, superintendent, trustees, earnest and self-sacrificing men that you are, how about that fifth finger? Please don't forget it. For I am the voice of tens of thousands who long for what I have asked.

At its second annual convention, held at Ft. Smith, Ark., in March, the Union Hospital Association, of Arkansas and Oklahoma, amended its constitution to make eligible for membership every member of organized labor within the association's jurisdiction. Officers for the ensuing year were elected as follows: president, James Tangye, Hartford, Ark., vice-president, G. E. Mikles, Jenny Lind, Ark., secretary-treasurer, Mike Chapman, Dewar, Okla. Authority to employ a chief surgeon at an annual salary of $12,000 was delegated to the executive board. The association contemplates the erection of a $250,000 hosiptal in Ft. Smith, Muskogee, or McAlester in the near future. Its members pay an initiation fee of $5.00 and monthly dues ranging from 50 cents to $1.00, which entitles them to medical and hospital services when needed.

ISOLATION WARD PLANS FOR NEWPORT NAVAL HOSPITAL*

Modification of Isolation Ward of Providence City Hospital to Meet Naval Hospital Needs

BY R. K. JOSLIN, Assistant Surgeon, United States Naval Reserve Force.

The proper control, isolation, and nursing of patients having a communicable disease is of the greatest importance, especially at the present time, to the medical men of the navy. With both barracks and camps filled with men from all parts of the United States, carriers, as well as mild and missed cases, are prone to be found among them. It is therefore desirable to have buildings in which these cases can be properly cared for, as well as isolation wards to control those cases having doubtful or undetermined diagnosis. In the past twenty-five years much has been learned to increase our knowledge of the mode of transmission in contagious diseases. To quote D. L. Richardson, M. D., superintendent of the Providence City Hospital:

"The problem of controlling infection resolves itself, then, into measures for preventing the transference of secretion or excretion from the sick to the well, either by direct or indirect contact. Lord Lister taught surgeons that clean operative wounds were possible by employing 'antisepsis.' The asepsis of today is Lister's 'antisepsis,' without the antiseptic spray to sterilize the air. Asepsis will do for the medical care of patients suffering from infectious disease what it has done for surgery."

To enable both the medical and nursing personnel to properly carry out the simple technic required in aseptic fever nursing, wards having special features and equipment are necessary, since the older type of contagious hospitals is inadequate and unfitted for its proper control.

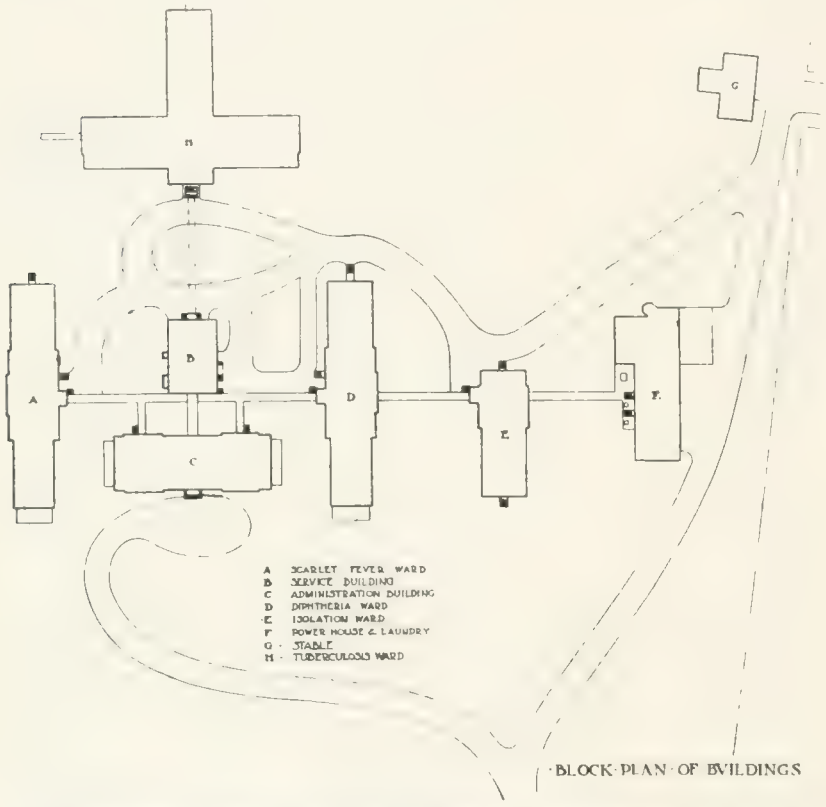


Fig. 1. Block plan of buildings, Providence City Hospital. Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

In 1888, Grancher, of Paris, began the work which paved the way to the building of the Pasteur Hospital, holding 120 patients housed in two two-story buildings, and completed in 1900. At a later date English physicians adopted aseptic technic, and similar hospitals were constructed for contagious diseases. Ten years later, Dr. Charles V. Chapin, superintendent of health, city of Providence, R. I., who had visited the hospitals of both France and England, was able to have the Providence Hospital constructed upon plans modified to provide for the most modern medical asepsis.

The Providence City Hospital consists of a group of buildings having a scarlet-fever ward, diphtheria ward, isolation ward, tuberculosis ward, administration building, service buildings, power house and laundry, and an ambulance station, as shown in Figure 1.

The diphtheria and scarlet-fever wards are similar, both buildings being two stories high, the first and second floors planned alike. By adopting both the "barrier" and unit system, 100 patients can be accommodated in these two buildings (Fig. 2).

The isolation word, first floor, has eleven separate units. One- to three-bed units are located on the second floor, making a total capacity of twenty-four beds in this building. This ward is of special interest to us, as it is constructed on a unit or cubical plan and can be used to house all contagious cases. Similar temporary wards can be easily erected along these lines as an addition to the regular naval hospitals (Fig. 3).

A group of buildings has been planned, modified from the isolation ward of the Providence City Hospital, consisting of an administration building and two wards holding seventy-six beds, with room for three additional wards, which would extend the hospital capacity to 188 beds. The size of the buildings and number of wards was planned to suit conditions at the Newport Naval Hospital. The situation, number, and size of buildings would in each case depend on the available land and the number of patients to be accommodated. Buildings are proposed, with space to add three more wards, if necessary, one administration building being sufficient for a group of five wards, all buildings one story high to be heated and lighted by a central power and heating plant from the main hospital. Food prepared in the main hospital kitchen is brought in food carts to the diet kitchen, from which it is served to each ward.

The administration building, 81 by 30 feet, has a central corridor, on one side of which is an office room for nurses with a separate lavatory and shower bath, which would be available for the female nurses in charge of the ward, and also a dispensary, which is large enough to serve both the purpose of a pharmacy and laboratory combined, where specimens could be examined without bringing them to the main hospital. The examining room and usual store and linen rooms are also located in this building, one storeroom being used for the storage of patients' clothing. The examining room, 12 feet 4 inches by 11 feet, is equipped

*Courtesy of the United States Naval Medical Bulletin.

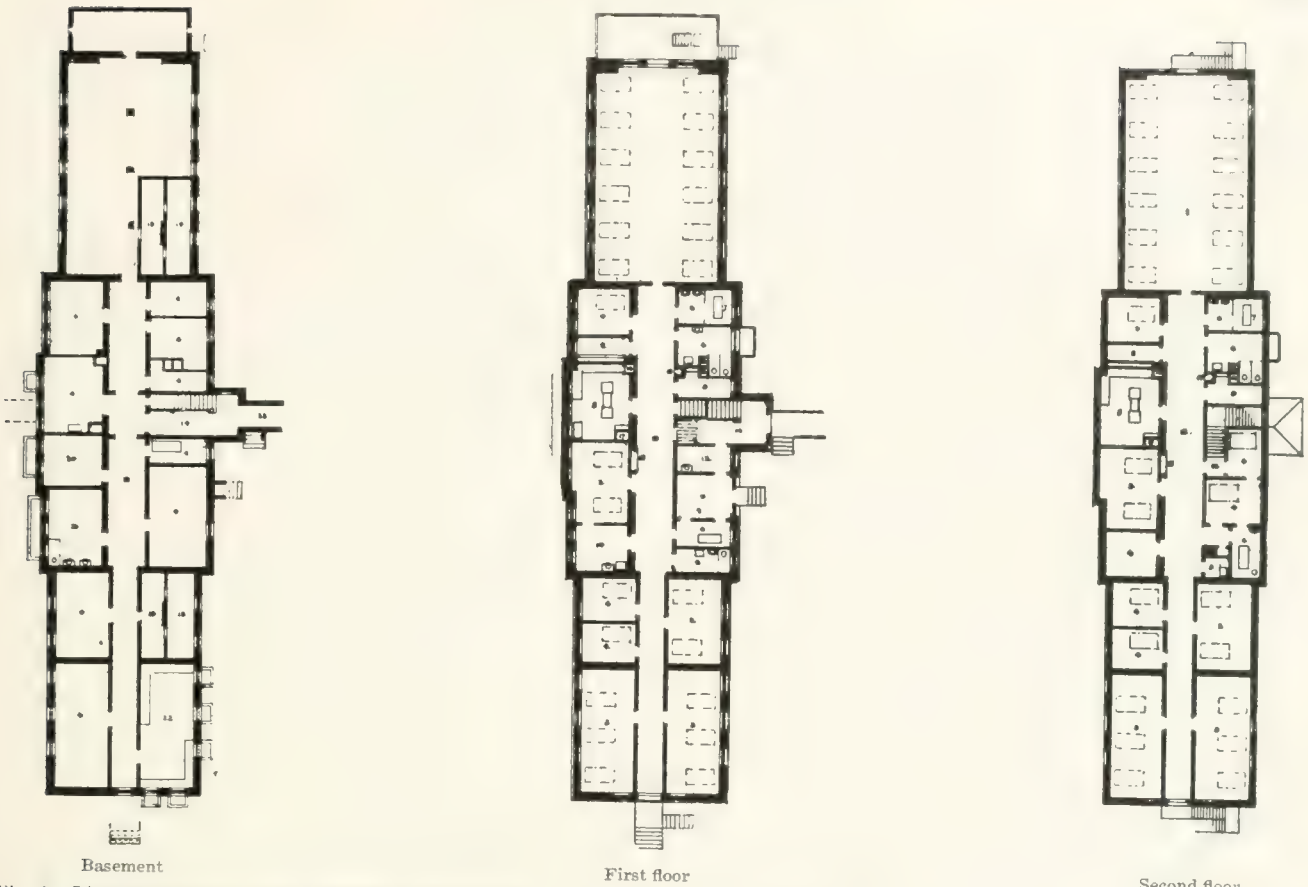


Fig. 2. Diphtheria ward of the Providence City Hospital. The scarlet-fever ward is similar. Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

1. Twelve-bed ward.
2. Two-bed ward.
3. Three-bed ward.
4. Room.
5. Diet kitchen.
6. Lavatory.
7. Bath.
8. Linen closet.
9. Closet.
10. Operating room.
11. Examining room.
12. Robing room.
13. Corridor.
14. Stair hall.
15. Medicine closet.
16. Dryer.
17. Dumb waiter.
18. Chute.
19. Heating chamber.
20. Patients' clothes room.
21. Nurses' clothes room.
22. Laboratory.
23. Tunnel.

Fig. 3. Projected isolation ward at Newport Naval Hospital; plan modified from foregoing. Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

2. Two-bed ward.
3. Three-bed ward.
4. Room.
5. Diet kitchen.
6. Lavatory.
7. Bath.
8. Linen closet.
9. Closet.
10. Operating room.
11. Examination room.
12. Robing room.
13. Corridor.
14. Stair-hall.
15. Medicine closet.
16. Dryer.
17. Dumb waiter.
18. Chute.
19. Heating chamber.
20. Patients' clothes room.
21. Nurses' clothes room.
22. Laboratory.
23. Tunnel.

with metal table, one small bedside table for stethoscope, head mirror, throat sticks, etc., several metal chairs, small metal wall cabinet, and a lavatory operated by foot-levers, with soap and nail-brush containers for the proper washing of the hands after the examination of each patient. Two large ground-glass windows give the best available light, a matter of the greatest importance in this room. Next to the examining room are two locker rooms, equipped with metal lockers for the ward and service uniforms of the hospital corpsmen on duty; the other locker room, with the same equipment, is for the street and ward uniforms of the female nurses. Each room is equipped with the usual foot-lever lavatory, as in each of the ward units. Gowns for the medical officers may be kept in one of the locker rooms. The only areas of infection in this building are the examining room, where the patients are first taken, and the locker room, where the doctors' and nurses' clothes are kept. Patients' clothes are sterilized before being put into the bag or storeroom. A lavatory operated by foot-levers, and toilets, available for the doctors, is located at the end of the hall near the doctor's locker room.

The administration building is connected to the first ward by corridors, glazed on either side. Opening into this corridor are both steps and an incline. Similar corridors connect each ward, making a continuous passage from the administration building to the last ward of the group of buildings.

The ward is divided by a central corridor, on either side of which are located twelve separate units, or isolation rooms, large enough for two beds each if necessary, a room for the hospital apprentice in charge, a diet kitchen, minor surgical operating room, and a toilet.

At each end of the corridor is a small ward or solarium, having a capacity of six beds each, for convalescent patients. The other buildings of the group are duplicates, except that the minor surgical room is a two-bed unit, only one surgical room being necessary for the ward group. The minor surgical room is available for all surgical treatment that may be indicated by complications in contagious diseases, and here also major operations may be performed. This room, 11 feet 4 inches by 12 feet, is equipped with a lavatory operated by foot-levers, instrument case, operating table, small sterilizer for instruments and basins, and a small instrument table. The windows, extending to the ceiling, are glazed with ground glass, affording the best of light. There is also a window of ground glass on the corridor side. The diet kitchen, 11 feet 4 inches by 12 feet, is equipped with a small refrigerator, dresser, sink, and tray sterilizer. The hospital corps room, for the apprentice on duty, is equipped with a desk, chair, a rack for chart boards, and a lavatory operated by foot-levers. At one corner of this room is a window on the corridor side, outside of which a mirror is placed to enable the apprentice in charge to look up and down the corridor to prevent those patients convalescing in the separate units from visiting each other. The toilet room in each ward is equipped with a shower bath and drying floor, toilets, slop sink operated by foot-levers, sterilizer for utensils, bedpan racks, and a foot-lever lavatory. A door leads out of this room to a roofed-over iron platform, where mops and brooms are kept, rubber sheets may be dried, etc. Each ward unit, 11 feet 4 inches by 12 feet, is equipped with two beds, two small metal bedside tables, lavatory with foot-lever control, soap and nail-brush container, glass shelf, toilet-paper rack, two hooks for gowns, towel rack, and metal basket for soiled towels. The beds have wheel casters, so that they can be easily rolled out to the solarium at the end of the ward. A window is located in the corridor wall to enable the nurse to look into each separate unit without entering. The lighting system for each unit is controlled from the corridor side instead of within the room, a switch being placed outside of each door. The solariums at each end of the ward are equipped with six beds, bedside tables, shelves, hooks, and a lavatory as in each unit. Convalescents here are controlled by the "barrier" system.

In the contagious hospital as planned above, modified from the isolation ward of the Providence City Hospital, patients with all forms of contagion can be properly isolated and the amount of mixed infection reduced to the minimum without having large separate wards for each separate type of case. This saves expense and reduces the size of personnel needed for the care of a large number of cases, and affords the best method for obtaining modern aseptic technic.

A TRAINING SCHOOL FOR NURSERY MAIDS

Succe-sful Course Given by Michael Reese Hospital—School for Maids Entirely Distinct from Nurses' Training School.

Michael Reese Hospital has made a distinct success of its training school for nursery maids, and those who stand for the highest standards and ideals in the nursing profession need have no fear that this school, which is under the supervision of the superintendent of nurses, tends in any way to confusion of nursing standards.

The circular of information given to applicants begins with this definite statement: "This course is in no way connected with the 'Training School for Nurses.' Its graduates are not competent to care for any but well children." The nursery maids understand thoroughly that they are maids in service: they have their own separate living quarters and dining room, and it is said at the hospital that, so far, there have been no unpleasant experiences at all of any effort on the part of the maids to overstep the established social order of things.

The course for nursery maids is one year, with one month of probation, and for entrance an eighth-grade education and a certificate of health are required. Those entering the course are required to obey the regulations of the school, and of course may be dismissed if unsatisfactory During this course the nursery maids receive $4 per month, maintenance, laundry, and medical attendance, and are taught the following: the housekeeping care of rooms and infants' and children's clothes; nursing hygiene; simple cookery; preparation of infant-feedings; serving; laundry work; care of infants and well children and the primary technic of kindergarten work and child play and entertainment; the care of the ordinary emergencies of childhood. Nursery maids who complete the course in a manner satisfactory to the hospital are given a certificate, and as there is such a demand for this class of trained help, are sent out almost immediately to positions paying from $10 to $15 per week.

Although the young woman who goes out from this service cannot in any sense be called a nurse, she certainly does fill a long-felt want, and any woman of sufficient means to pay for this service would surely prefer to have her children in the care of someone who has been trained in the way these maids are trained in the hospital, rather than in the haphazard care of the average nursery maid. If hospitals, wherever possible, would give courses of this kind much could be done toward the better understanding of the care and protection of infants and children.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH.
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

The Lives and Health of Mothers and Children—How Can We Save Them*

By EDWARD P. DAVIS, A.M., M.D., F.A.C.S., Professor of Obstetrics, Jefferson Medical College, Philadelphia.

In this day of advanced medical science, is there a crying need for great improvement in the care of parturient women and the care of mothers and infants?

The mortality statistics tell us that in the United States from 1901 to 1905 the annual average of deaths from the accidents of pregnancy was 549; from puerperal hemorrhage, 337; from other accidents of labor, 295; from puerperal septicemia, 2,057; puerperal convulsions, 911; puerperal phlegmasia alba dolens, 4; from other puerperal accidents, 488; puerperal disease of the breast, 1; a total of 4,642 deaths occurring among mothers annually from diseases and accidents connected with pregnancy and labor. This does not include stillbirths or conditions which pertain to stillbirths only. When we compare this number of deaths with those occurring in women from cancer of the breast and cancer of the uterus, we find that the number of deaths from pregnancy and labor very nearly equals that of cancer of the breast and cancer of the uterus. Among infants an annual average of death rate of 26,511 from malformations and diseases of early infancy is cited. A recent report from the Children's Bureau of the United States Department of Labor by Dr. Grace L. Meigs states that in 1913 at least 15,000 women died in this country from diseases caused by childbirth, of whom 7,000 died from puerperal septic infection and the remaining 8,000 from diseases now known to be largely preventable or curable. Taking the statistics for 100,000 population, childbirth was a little less fatal than typhoid fever, and, if the statistics of typhoid fever were limited to women only, childbirth would be four times as fatal. Tuberculosis only shows a higher death rate among women between the ages of 15 to 44 years. Furthermore, while in the last thirteen years there has been a marked diminution in the mortality of typhoid fever, diphtheria, and tuberculosis, no such decrease is shown in the mortality attending childbirth.

When the conditions pertaining in this country are compared with those in foreign countries, we occupy an unenviable position. Of fifteen important foreign nations, only two show a higher death rate attending childbirth than does the United States. Sweden, Norway, and Italy have remarkably low death rates, while there has been a marked diminution in the last thirteen years in the death rates in England and Wales, Ireland, Japan, New Zealand, and Switzerland.

One can possibly obtain a better idea of the conditions prevailing throughout our country by reference to reports upon rural obstetrics from three townships selected: one in a North Central state, one in the Middle West, and one in the South. In the first, 50 women were interviewed, of whom 48 had a physician at their last confinement; one was attended by a neighbor, and one by a midwife. Only 7 of the 50 mothers had had any attention by a physician before the birth of the child, and of these 7 cases, one visit was paid in each case. Only 3 of the 50 had an examination made of the urine, and in these but one examination. The pelvis was measured in but one case. There were a number of diseased conditions occurring during pregnancy which received no attention. One woman described nephritis, another had severe toxemia with headache and edema of the whole body, and this woman had had nephritis in a former pregnancy. Neither of them had had care before childbirth. In 13 out of the 50, the physician made no visit after the confinement; in 24 but one visit was made. Four of the infants were delivered by forceps and the mother of one of these died from hemorrhage a day later. The child was stillborn. No physician was called in consultation. Five of these women had more or less severe hemorrhages after labor; three had adherent placentas; one had fever on the third day; one an infected breast; another thrombosis of a vein in the thigh, from which she suffered nine weeks. None of these women had a trained nurse at confinement; 7 had practical nurses; 25 a relative or a friend; 13 a neighbor or a friend who came from outside. These conditions pertained in a prosperous state and in a township no part of which is more than six miles from a doctor, and where telephones are commonly used. The nearest hospital was about twenty miles distant.

In the township in the Middle West, one-half of it was comparatively near a progressive small city, from which a doctor could easily be obtained, but the other half was in a wilder part of the country, eight to twenty miles from a hospital. In this township, of 50 mothers, 28 had a physician, as they lived comparatively near the town. Only 9 had attention during pregnancy, and in 5 but one examination of the urine was made, while but one patient had more than one examination. Out of 28, 18 had no visit from a physician after labor, although 7 had been delivered with forceps.

In the southern township there was difficulty in getting a doctor, and in some cases the doctor did not arrive until the child had been stillborn. In one case a woman who had had children was taken in labor, and birth did not occur spontaneously, but the physician summoned could not arrive until the following morning. Labor had been delayed by an abnormal position of the child, which was finally delivered dead. The mother was seriously ill for more than a month. One pregnant patient, while working in the field, had a sudden and severe hemorrhage. In a heavy storm the husband drove with the patient nine miles to the nearest town for medical help. Of 50 mothers, 26 were white and 24 colored, and of the 50 but 10 white women were attended by physicians; the remainder had colored midwives. None of these women had trained nursing care and only one had a practical nurse.

What could be done to improve these conditions? Prof. Irving Fisher, in his report on national vitality before the National Conservation Commission, states that out of 100 cases of premature birth, 40 could be prevented; of congenital debility, 40 could be prevented; of venereal infec-

*Read before the joint meeting of the National Associations of Nurses, Philadelphia, 1917; presented here by courtesy of the *American Journal of Nursing*.

tion, 70. Diarrhea and enteritis, the most important cause of infant mortality, could be prevented in 60 out of 100 cases. Convulsions, which are such a bugbear to mothers, could be prevented in 60 percent of cases. Of all diseases of infancy, 47 percent could have been prevented. From one hundred to two hundred thousand lives might have been saved each year.

I will not weary you with statistics, but they indicate that there is ample evidence of great need in improving the conditions of childbirth in this country.

The present is a peculiarly favorable time to secure this change. The wastage of human life in Europe has been so great and the demands for active workers in this country so exceed the supply that human life has an economic value which it has never before possessed. The legal value of a human life is its wage-earning capacity, and hence a child too young to work has but a sentimental value, and one is not surprised at the irony of a court that awarded damages of thirty-nine cents to the parents of a little child killed by an accident on the ground that some sentimental compensation should be made, but, as the child was too little to work, its life had no economic value. Human life has heretofore been the cheapest of commodities. Those who remember the early conditions of railway travel know that for a long time men were obliged to go between railway cars to couple and uncouple them, and that a large number of deaths and accidents resulted. At that time there were in existence inventions which would have overcome this danger, but it was cheaper to pay for life and limb at current rates than to install these appliances in cars, and it was not until the law compelled it that the change was made.

But at present life has an economic value never before attained, and, appalled by the waste and wreckage of human life and limb, the world is turning anxiously to means for saving future generations.

We believe in democracy of knowledge as we do in a true democracy in all branches of life. For some years the medical profession—and under this term I include the profession of nursing—has conscientiously striven to spread among women practical and clear knowledge concerning cancer. A brief, clear description of the first symptoms of cancer has been widely circulated, posted in dressing rooms used by women, and such knowledge has been spread abroad in every possible legitimate manner. Many cases of cancer can be cured by immediate operation, and it is to attract the attention of women to their danger and their hope for relief that this knowledge is made public.

Knowledge concerning the toxemia of pregnancy, eclampsia, hemorrhage during pregnancy, signs and symptoms of abortion and premature birth, and the complications developing during pregnancy should be given the widest publicity, and women should be urged on the slightest indication of danger to seek reputable medical help. A plain, simple, dignified statement of the important facts of reproduction should be given to young persons, and this may well be done in schools. Popular journals should positively decline all communications upon subjects connected with childbirth which are exaggerated, sentimental, and hysterical. Propaganda actuated by trade purposes should be repressed, and nothing should be done to help the quack and the cheat. One cannot expect to do much with the population unless sound, practical knowledge is made common.

Better education for doctors and nurses is also essential. In this great improvement has been made and is still in progress. In the Jefferson Medical College of Philadelphia each student personally attends 12 cases of confinement, besides his clinical and didactic instruction before graduation. He then, before entering into private practice, spends a year in hospital work in a hospital having a maternity department. Our nurses see and study from 35 to 50 cases of confinement covering the range of obstetric complications before entering upon private practice.

The midwife is an undesirable product of foreign immigration. Until, however, hospitals become more abundant throughout all parts of the country and prenatal work connected with hospitals can reach inaccessible portions of the country, it seems impossible to abolish the midwife entirely. She is far more strictly watched than formerly and with corresponding improvement in her work.

The necessity for prenatal care has of late become more definitely recognized and has been brought to the attention of the public. Ballantyne in England has been instrumental in opening wards for pregnant women only and in establishing prenatal clinics. When one remembers that the toxemia of pregnancy is in many cases preventable, one can appreciate the value of prenatal care. How successful this is may be judged from the Bulletin of the Department of Public Health and Charities of Philadelphia, February, 1917, in which Dr. Florence Childs, medical inspector from the division of child hygiene, states that among 1,736 respective mothers visited by the city nurse during the year 1915, there was but one case only of eclampsia. To be most successful, prenatal care must receive assistance from social service workers. It is useless to tell a mother to take proper food when she does not know what it is or how to cook it and is unable to buy it. The economic conditions in each case are often most important. So, too, the police department may also cooperate in arresting abortionists, closing houses of abortion and resorts of drunkenness and vice. All those agencies which make for decent, clean, and honest living are vitally concerned in prenatal care. Women illegitimately pregnant should not be neglected in this regard, and such a woman should be shielded and kept from abortionists and the life of the child, as well as her own life, should be saved.

While the interests of the mother are first, prenatal care has an enormous bearing upon the life and health of the unborn child. Deformities are usually produced during the early months of pregnancy, and then it is that pregnant women are often sickest and more in need of attention and encouragement. As pregnancy goes on, the dangers to the mother increase in greater proportion than the dangers to the child. The child whose mother is ill nourished during pregnancy will not escape the effects of her lack of food. Children so born fall a ready prey to the infectious diseases and frequently die from pneumonia after measles or contract tuberculosis. Prenatal care may spare the infant the poisonous effects of alcohol in the mother or the blighting influence of poisons to which she may be exposed in various industries. So, too, the sanitation of shops and factories is most important for mother and child.

Obstetrical science has gone forward rapidly in recent years in the development of obstetric surgery. Contracted pelvis and deformity has lost much of its terror for doctor and patient. Hemorrhage complicating pregnancy and parturition can often be promptly and successfully controlled by surgical means. In toxemia and eclampsia the results of treatment show a decided improvement. In the prevention of puerperal septic infection there is little, if any, improvement throughout the country because so many

of those who attend confinement cases will not scrupulously practice asepsis and antisepsis.

The most important factor in the diminution of death and disease among mothers and children lies in the development and increase of hospital care for women in childbirth. When the public and the profession believe and practice the truth that women in childbirth should have the same careful attention that a patient receives who must have a surgical operation, then and then only will decided improvement occur. By this we do not mean that obstetrical patients necessarily require obstetrical operations, but the act of labor itself frequently causes wounds and injury, and such a case should receive the same thorough antiseptic and reparative care which is given to other surgical conditions. As the number of hospitals increase throughout the country, as good roads are made common, and motor ambulances multiply, cases of complicated labor will more and more be promptly taken to hospitals and will there receive adequate medical attention. The medical profession and the public must be made to believe that so important are these cases that they must receive as good care as that given to serious accidents occurring in factories, to cases of tumor developing in women requiring operation, and to cases in which hemorrhage from other causes than pregnancy and childbirth threatens life. No substantial improvement can be made in obstetric mortality and morbidity until these facts are admitted and appreciated.

This matter takes us to the very roots of our national life. Nothing can so strike at the heart of illegitimacy in pregnancy as reform in economic conditions which shall give to young men and women a living wage, good sanitation, reasonable and healthful amusements, and the rights and responsibilities of a true democracy. Early marriage should be encouraged and made possible. The time may come when a medical certificate of good health may be demanded before a marriage license is issued, and there are many arguments in favor of this course. No stronger means can be taken against vice and immorality than the encouragement of a pure and happy family life.

There is a lesson of deep significance in all this for those in this country who are favored with abundant prosperity. Luxury produces nervous degenerates, feeble offspring, and miserable health. Luxury sets false standards of life and creates unhappiness and unrest in those who do not rightly know the true value of things. Selfish and idle luxury is foreign to the genius of true democracy. The idle degenerates are soon pushed aside by the strong, the normal, the clean, and the healthy, but still their influence is not for good.

The strength of a chain is the strength of each link, and in the present world's crisis when the greatest storm of history is wrecking human life, it is our duty to see to it that our ship of state has an anchor chain of true democracy, whose links are healthy, sane, honest citizens. Such an anchor chain will hold from wreck against the tides of aggression and even internal conflict.

Under the will of Andreas M. Miller, formerly of Duluth, Minn., who died in New York City last May, the city of Duluth will receive a bequest of $600,000 for the erection and maintenance of a modern hospital. The hospital will be operated under the direction of the city council and will be free to the worthy poor, without distinction on account of sex, color, creed, or nationality, the only restriction being in the case of contagious diseases, which will be excluded.

LETTERS TO THE EDITOR

A Japanese Friend Commends The Modern Hospital

To the Editor of THE MODERN HOSPITAL:

On receipt of your letter and a copy of THE MODERN HOSPITAL I express my gratitude for your kindness of sending me the most valuable journal I ever read concerning the subject of hospitals. I have learned from you that you have not been able to elicit any response from hospital people in my country, and I feel it my duty to make it known to my friends in Japan and to ask them to study the matter so as to let the hospital people linger no longer on such impoliteness, though they do not mean it. I imagine the cause not answering you might lie in the difficulty of writing the matter asked in English. Therefore, it will be a great relief for them to let them know that they are asked to write answer either in English or in Japanese. You can easily find some Japanese students studying in Chicago in rendering Japanese into English. I wonder if you could agree with me on this point.

In the course of one or two months I shall be able to send you some pages concerning the open-door system at the Nagasaki Hospital, which I have experienced these four years.

I thank you for your information of your fruitless efforts since it is suggesting to me a piece of uncultivated land wherein I may make myself useful.

NOBORU ISHIDA,

Professor Nagasaki Medical College and Chief Alienist of the prefectural Negasaki Hospital (general).

Grand-Pere

And so when he reached my bed
The General made a stand:
"My brave young fellow," he said,
"I would shake your hand."

So I lifted my arm, the right,
With never a hand at all;
Only a stump, a sight
Fit to appal.

"Well, well. Now that's too bad!
That's sorrowful luck," he said;
"But there! You give me, lad,
The left instead."

So from under the blanket's rim
I raised and showed him the other,
A snag as ugly and grim
As its ugly brother.

He looked at each jagged wrist;
He looked but did not speak;
Then he bent down and kissed
Me on either cheek.

You wonder now I don't mind
I hadn't a hand to offer . . .
They tell me (you know I'm blind)
'Twas Grand-père Joffre.

—From "Rhymes of a Red Cross Man" by Robert W. Service.

He is happy whose circumstances suit his temper; but he is more excellent who can suit his temper to any circumstances.—Hume.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES.
Dietitian of Lakeside Hospital, Cleveland, Ohio.
Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, O.

Some Difficulties With War Breads and How They Were Overcome

The report on the work done at the University of Kansas by Miss Sprague and Miss Loflin on war breads, with its very good illustrations, gives a definite idea of the comparative qualities of bread made from the various flours.

In connection with this paper, a report of some of the difficulties encountered in France from the use of "war bread" and the way these difficulties have been met is of timely interest. The abstract which follows is taken from an account printed recently in one of our scientific journals.

"Eighty-five percent flour consists of the farina, or inner white part of the kernel, plus an addition of the middlings, or thirds, with an unavoidable admixture of bran. Contrary to the popular belief that the bran was the cause of digestive troubles caused by war bread, it was found that these middlings were to blame for its unsatisfactory qualities.

"This middle portion of the grain, lying between the envelope of cellulose and the central white part of the kernel containing gluten and starch, consists mainly of the aleurone layer and the germ. The cells containing aleurone have a special function; at the moment of germination, when the germ is sprouting into a new plant, it is their duty to attack, dissolve, and transform the inner part of the kernel in order to nourish the young seedling, which is thus enabled gradually to absorb all the nourishment stored in the grain.

"This function is performed by means of ferments known as diastases. When these find their way into the flour they begin to ferment energetically as soon as moisture is added, and it is to this fermentation that the objectionable qualities in the 85 percent war bread were due. These diastases, which are definitely acid, affect the dough during the time it is set to rise. They not only make it darker, but modify the gluten, interfere with the rising, so as to produce a bread more compact and heavy, and alter both taste and odor, which are sour and acrid, with an unpleasant butyric flavor.

"Having found the element responsible for the injurious action, the next step was to find some means for suppressing the ill effects of the diastasic action. 'One of us,' says Professor Lapicque, 'working with Dr. Palazzoli, observed that under the action of the vapors of ammonia the middlings changed color, turning from gray or reddish to a lemon yellow. The same yellow was produced under any alkali whatever, and under the microscope it was seen to be definitely localized in the aleurone-holding cells; finally it was also produced in the soluble matters obtained by macerating the middlings in water. It is therefore a sign of neutralization, and experiment proved that the macerations which had undergone the change in color were no longer subject to the acid fermentation of which we have spoken. The middlings which had changed color had at the same time lost most of their injurious action upon the flour.'

"The investigators next instituted some practical experiments at one of the military bakeries.

"The alkali chosen, because of its hygienic qualities, its cheapness and ease of manufacture, was lime-water. Here the middlings were treated separately until the significant change of color was produced, then used with the white flour. The resultant bread was most successful. The bread was sweet and savory, without any sour or acrid after-taste or flavor. Another important point in its favor was its keeping quality, one of the criticisms of the untreated war bread being its tendency to become moldy in about five days, a serious matter because of the inevitable delay often caused by transportation difficulties. Moreover, the bread was lighter in color and thus more pleasing to the eye.

"No change in the practice of bread-making is entailed by the new recipe. The successive yeasts and the dough are made and worked as usual. The dough is made up with lime-water instead of with ordinary water. (The lime-water is prepared in an approved manner.) The bread thus made is better raised; its crust is firm; it has an agreeable odor; its flavor is sweet, without acidity or acridity. It leaves a pleasant after-taste. It keeps well."

Bread for War Times*

By ELIZABETH C. SPRAGUE, and ETHEL LOFLIN, Department of Home Economics, University of Kansas.

The substitution of unusual flours and meals for bread-making purposes is a well-establish practice by this time, but just how far one may go in the substitution of these products in place of the ordinary white flours and still obtain a well-risen loaf of characteristics similar to those of a wheat loaf has been a question worthy of experimentation.

Some of the grains most available for bread-making purposes are rye, corn, rice, oat, barley, and Kafir. At the time the experiments described below were performed, it was possible to buy in marketable form only rye and corn flours and cornmeal. The other grains (rice, oat, barley, and Kafir), were not on the market in flour form. Consequently, the flours used in these experiments were ground on a small spice mill, driven by a one-horse-power electric motor. Repeated grindings and siftings were necessary to reduce the whole grain to a sufficiently fine state so that the flours could be introduced into the dough just as a wheat flour would be used. It was possible to grind the rice fine enough so that the flour passed through a 40-mesh sieve; the barley and Kafir were ground to the fineness of 30-mesh and oat flour to 20-mesh. The rice flour, which was ground from polished rice, was finer than the other flours but had a hard granular feel; the oat, Kafir, and barley flours were soft and similar in feel and color to ordinary whole-wheat flour.

The purpose of the experiment, of course, was to determine how far it would be possible to use the substitute flours and still obtain a loaf comparable with the all-white flour loaf. These other flours are known to be lacking in gluten, the substance in wheat which, by virtue of its elastic, tenacious qualities, makes it possible to obtain a large-volumed loaf.

Standard proportions, such as have been successfully

*The illustrations accompanying this article are presented by courtesy of the *American Food Journal*.

All Wheat | 25% Rye | 50% Rye | 75% Rye | 50% Rye 50% Oat

Fig. 1. Results of the substitution of various proportions of rye flour for wheat.

15% Oat. | 25% Oat. | 33% Oat. | 50% Oat. | 75% Oat.

Fig. 2. Oat flour substituted for wheat. Cracks are due to the fact that the bread was dry.

15% Barley. | 25% Barley. | 33⅓% Barley. | 50% Barley. | 75% Barley.

Fig. 3. Barley flour used in the same proportions as the oat. The color of the first two loaves is due to the addition of molasses.

15% Rice. | 25% Rice. | 33⅓% Rice. | 15% Kafir. | 25% Kafir. | 33⅓% Kafir.

Fig. 4. Rice and Kafir flour substituted for wheat. The cavity in the last loaf is due to its having been turned over when about half done.

used in food laboratories and in home kitchens, were employed throughout. The results of the experiments were verified by the use of both the long and the short process of handling the dough, and by using both dried and compressed yeasts. The results pointed to the fact that the variations in the size of the loaves were due to amounts and kinds of other flours used and not to method of handling or kind of yeast. The breads were made under such controlled conditions as would be necessary for such an experiment; materials were accurately weighed, uniform temperatures maintained, and the manipulation of the dough was the same throughout. Substitutions by weight of these other flours in varying proportions, retaining generally part of the white wheat flour for the framework of the loaf, show the possiblities of the so-called "war flours."

Only a word of explanation of the illustrations is necessary, as the pictures show very clearly the results of the experiments.

RYE FLOUR

Fig. 1 shows loaves of all wheat, 25 percent rye, 50 percent rye, 75 percent rye, and equal quantities of rye and oat, respectively. The substitution of 25 percent rye flour gives a loaf but little different from the ones made of all-patent flour, except for a slightly darkened color. The use of 50 percent rye darkens the loaf more still and also diminishes the volume, though not to an undesirable extent. Seventy-five percent rye makes a loaf which might be eaten with relish but is of an altogether different type from the others; it is inclined toward heaviness and decidedly dark in color. Using half-and-half of rye and oat flours does not make a suitable combination; the product is heavy and soggy and the flavor unpleasant.

OAT FLOUR

Fig. 2 shows loaves made of 15 percent, 25 percent, 33 percent, 50 percent, and 75 percent oat, respectively. When oat flour was substituted in quantities of 15 percent and 25 percent, a very satisfactory loaf was the result. These small amounts of oat flour, however, have a rather nondescript grayish color which was none too appetizing. It is thought possible to relieve this by adding dark cane molasses for sweeting in place of sugar. Larger quantities of oat flour bring the expected decrease in volume, and the loaf is quite heavy and soggy. The negative results with more than 25 percent of oat flour may have been due to the coarseness of the flour. It may be possible to overcome this in the 33 percent and 50 percent quantities, at least, by better and finer grinding.

All Wheat. 25% Oat. 25% Rye. 25% Cornflour. 25% Barley 25% Cornmeal.

All Wheat. 25% Graham. 25% Kafir. 25% Rice.

Figs. 5 and 6. All-wheat bread compared with loaves containing 25 percent of other flours, showing, with some variations in lightness and grain, surprising uniformity in quality.

BARLEY FLOUR

Fig. 3 shows loaves of 15 percent, 25 percent, 33⅓ percent, 50 percent, and 75 percent barley, respectively. Barley flour gave a loaf very similar, in all the proportions used, to the oat flour results, except that the loaf was somewhat lighter and even one-third of this flour might be used very satisfactorily. Cane molasses was used in all the barley breads to offset the unattractive, gray color.

RICE FLOUR

The first three loaves in Fig. 4 are made of 15, 25, and 33⅓ percent rice, respectively. The illustration shows the substitution only as high as 33⅓ percent, since the coarseness of this loaf indicated that increasing amounts would be undesirable. These loaves are white and only slightly different from the wheat flour loaves in texture and appearance.

KAFIR FLOUR

The second three loaves in Fig. 4 are composed of 15, 25, and 33⅓ percent Kafir flour, respectively.

This grain can be used in quantities even as high as 33⅓ percent and still obtain a very satisfactory though slightly coarse loaf. The color is of course dark and the flavor, while different, is good and acceptable.

Corn meal and corn flour can be used in much the same ways as noted above for the other grains. The loaf made with the flour is finer than the one made with meal, but otherwise they are much the same. A pronounced corn flavor, which might or might not be desirable, was noticed in these loaves. No separate illustration is shown for corn flour.

SUMMARY

Figures 5 and 6 show the comparative differences in the loaves made by substituting 25 percent of each of the flours. The uniformity of size, appearance, and texture, in comparison with the all-wheat loaves, is very striking. This shows that without a doubt a loaf scarcely different from an all-patent flour loaf may be produced with these flours. A saving of one-fourth of the amount of wheat flour is an important one just at present. The choice of flour would necessarily depend upon the availability of the several kinds and upon personal taste, as there is a slight variation in taste and odor of the different loaves.

Concerning the relative economy of these breads, nothing of much value can be said, for, as already mentioned, most of the flours were home milled. With an increasing demand for such flours, it probably will be only a question of time until it is possible to find all these grains on the market in flour or meal form.

There is no appreciable difference in nutritive value in the different loaves, since the cereal grains all show a decidedly uniform composition. There is nothing in the nutritive value of wheat to give it precedence over these other cereals. The wheat flour does have bread-making qualities, however, superior to those of the other cereals, but by using two-thirds to three-fourths of white flour as a foundation, these other flours may be substituted and a great saving of our wheat supply effected.

Minnesota Dietitians Organize

A meeting to organize hospital dietitians of St. Paul and Minneapolis was held at City Hospital Thursday, February 7, 1918. Miss Gertrude Thomas of the University Hospital, Minneapolis, was elected chairman, Mrs. Beth B. Titus of City Hospital, Minneapolis, secretary, and Miss Mabel Benson of the Swedish Hospital, Minneapolis, treasurer. Miss M. Nickerson of the woman's committee of the National Council of Defense talked on "Food Conservation in Institutions." It was decided to admit to membership graduates of recognized courses in home economics who are actively engaged in institutional work.

The second meeting of the association was held at the University Hospital, Minneapolis. After some discussion it was decided to invite all trained dietitians engaged in hospital work in Minnesota to join the organization and to change the name to the Minnesota Dietitians' Association. It was also decided to meet the second Monday of each month, and the invitation of Miss Adeline Staubermeyer, dietitian at St. Luke's Hospital, St. Paul, to meet at her hospital March 16 was accepted. Dr. John LePac of the University Hospital then gave a paper on "The Dietetic Treatment of Diabetes" and Dr. R. O. Beard of the University talked on the need of organization among dietitians and some of the results to be expected.

Meeting of Executive Committee of American Dietetic Association

The executive committee of the American Dietetic Association met at Michael Reese Hospital, Chicago, February 21. Much business of vital importance was disposed of and the following committees were appointed: membership committee, Maude Perry, chairman; program committee, Ruth Wheeler, chairman; housing committee, Emma Smedley, chairman. The officers of this association are as follows; president, Lulu Graves, Lakeside Hospital, Cleveland; first vice-president, Lenna Cooper, Battle Creek Sanitarium, Battle Creek, Mich.; second vice-president, Violet Ryley, general organizing dietitian, military hospitals commission, Toronto, Can.; recording secretary, E. Moreland Geraghty, New Haven Hospital, New Haven, Conn.; corresponding secretary, Maude A. Perry, Michael Reese Hospital, Chicago; treasurer, Emma Smedley, director department of school luncheons, Philadelphia. These, with the following, make up the executive committee: Ruth Wheeler, head of department of nutrition, Illinois State University, Champaign, Ill.; Edna White, head dietitian of department of home economics, Ohio State University, Columbus, Ohio; and Nellie M. Wood, dietitian at M. E. Hospital, Omaha, Neb.

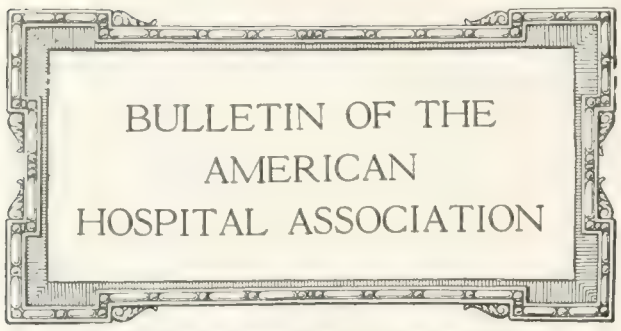
Analyze Your Needs

Whenever a piece of equipment or a feature of architecture is proposed for your hospital, it will be a good thing if you will trace the items of work in which it is to participate from beginning to end, in order to determine what its advantages and disadvantages are to be. For instance, let us say it is a food car that is wanted and you have one in sight; better ask yourself just what the car is for, whether to convey foods over short distances from the main kitchen to the dumbwaiter, thence to warming ovens in the service rooms upstairs, or whether it is to be used for the making up of trays in the service rooms to be distributed to the wards. In the first case it will not be necessary to have a warming device, as the foods go into the warmer at once on arrival at the service rooms, while in the second case it is highly necessary to keep the contents of the trays warm until they reach the patients' beds. The question will come up: is it desirable, in the course of transit, to care for cold foods, such as salads, jellies, ice-creas, as well as hot?

Many a piece of equipment has been bought because it was good looking and because it would do some one thing well, without very much reference as to whether it was wanted to do that one thing, or whether it was wanted to do some other things in our particular case.

In architecture we ought to associate the feature with the performance of the specific work in which it is to participate, trace every step of the work and determine whether that particular feature will lend itself to that work in the most efficient way. Success in studying our problems in just that way will very often mean the cutting down of much labor and saving much time. If one will cultivate the habit of analyzing problems in this way it will not be long until one will find himself initiating new ways of doing things and designing new mechanism to do it with.

One day a visitor at the Children's Hospital, Columbus, O., was telling the children a Bible story. When she finished she said, "Now, children, ask me some questions." A small voice from the corner bed piped up, "When is the next circus coming?"



Monthly Bulletin issued from the Executive Offices
728 Seventeenth Street, N. W., Washington, D. C.
WILLIAM H. WALSH, M. D., Secretary.

War Service—Hospital Membership—Priority of Shipment of Hospital Supplies—Twentieth Annual Convention—Retention of Interns

WAR SERVICE COMMITTEE

During the past month this committee held a meeting in Washington and through its chairman a conference with the staff of the Surgeon General of the Army. One of the subjects in which the association is deeply interested is the utilization of civil hospitals for the reconstructive work of soldiers returning from the war. The matter is now under consideration, and our committee is urging careful consideration of plans already formulated and submitted by the committee.

Since our last bulletin was published the surgeon general has called Maj. John A. Hornsby of Chicago to Washington as a member of a special committee on hospitals, and throughout the last two months he has been actively engaged in inspection tours to the various cantonment hospitals for the purpose of inspecting and reporting upon them.

The hospital division of the surgeon general's office suffered a loss in the assignment of Colonel Glennan to foreign service. He has been succeeded, however, by Col. Robert E. Noble, one of the most able and distinguished members of the regular medical corps. The staff of this division has been greatly enlarged, thus enabling the new incumbent to inaugurate many far-reaching innovations.

The committee desires to call the attention of the civil hospitals in the United States to the very great shortage of gauze and surgical dressings at the present time. The demands of the government are so great that this shortage will continue until these supplies will be obtained with great difficulty. All hospitals are urged to conserve by every possible means their supply of surgical dressings. In this connection, attention is invited to a paper entitled, "Small Leaks and How to Prevent Them," in Vol. XIV, of the *Transactions of the American Hospital Association*, 1912, p. 251. Further information regarding the methods of reclaiming gauze may be obtained from the Pennsylvania Hospital, Philadelphia, or the Massachusetts General Hospital, Boston. Both of these institutions have successfully followed this practice for a number of years and have thereby saved a great deal of money.

On February 2 a questionnaire issued from the Military and Naval Division of the Bureau of War Risk Insurance, addressed to "Every Hospital in the Country," developed the following information:

Every man in military service is entitled to compensation for death or disability resulting from injury or disease contracted in the line of duty. In addition there is the provision for war insurance, and all men in the service between April 6, 1917, and February 12, 1918, became automatically insured for a certain amount.

After a man is so disabled as to be unable to perform military duties, he is discharged from the service and then comes under the care of the Bureau of War Risk Insurance, and all questions of compensation or insurance for disability are determined by this bureau. The bureau undertakes to furnish necessary hospital care, and, in fact, the acceptance of such care is more or less obligatory on the claimant. Already there is a considerable number of cases of discharged men who require hospital treatment, and it is in order that they may be referred to proper hospitals near their homes that the data as to hospital facilities is being compiled by the War Risk Bureau. The questionnaire has nothing to do with the problem of reconstruction or rehabilitation. As proper hospital charges will, in these cases, be paid by the United States, it will be of advantage to the hospitals as well as to the communities which they serve to answer the questions of the bureau as promptly and fully as possible.

HOSPITAL MEMBERSHIP

The trustees are considering an amendment to our constitution and by-laws permitting the entrance to membership of a hospital as an institution. There are many problems to be solved in this connection, such as the representation that such an institution may have, and the method of determining it. In all likelihood this matter will be presented at the next convention for the consideration of the entire membership. Nothing in the proposed change is intended in any way to affect the status of the individual membership, which it is hoped will always continue.

PRIORITY OF SHIPMENTS OF HOSPITAL SUPPLIES

Many requests have been received by the association asking us to intercede with the government on behalf of the civil hospitals to obtain a ruling upon the matter of priority in the shipment of hospital supplies. In response to these requests, the secretary submitted the matter of priority to the Director General of Railroads, who replied that the government was exerting every effort to facilitate the rapid movement of all freight, and especial attention had been given to the expedition of those shipments which were certified as being urgently needed for the care and treatment of the sick. We were also advised that, if specific instances of delay in shipment of hospital supplies would be transmitted to the government, steps would be taken to effect a remedy. Complaints received at this office will receive prompt attention and will be duly submitted to the responsible authorities.

TWENTIETH ANNUAL CONVENTION

Arrangements are progressing for the twentieth annual convention, to be held in the Royal Palace Hotel in Atlantic City, September 24 to 28. The hotel is commodious and will probably be able to take care of all attending members who make reservations in advance. Many other desirable hotels are readily accessible, however, for the accommodation of those who cannot complete arrangements until the last minute.

This meeting will be the first in the history of the association at which the sessions will be divided into sections, each of which will arrange its own program. The following sections have either completed or are in the course of forming their organizations: out-patient work, dietetics, administration, nursing, social service, and hospital construction.

In addition to the program presented by these sections, there will be several general sessions at which subjects of

general interest will be presented and at which time also the various committee reports will be presented.

The business meetings inaugurated last year at Cleveland will be continued this year, and all the business affairs of the association will be presented and discussed at these sessions.

The commercial exhibit will be particularly interesting this year because of the efforts being made by American manufacturers to meet the demands of the country for many hospital requisites formerly manufactured only in foreign countries. Every inducement will be offered to those engaged in these infant industries to display their products at our convention, and the United States Tariff Commission will be invited to inspect the display.

Members of the association who desire the secretary of the association to write a special letter to their respcetive boards of trustees regarding the attendance of the superintendent at the convention should indicate this desire by writing to headquarters as soon as possible, giving the name and home address of the president of the board. Such letters in past years have been very effective, and many members have received permission from their boards to attend the convention annually at the expense of the hospital.

RETENTION OF INTERNS OVER ONE YEAR

The War Service Committee recommends that hospitals should notify the personnel division of the surgeon general's office, Washington, D. C., of the status of interns whom it is considered desirable to retain in hospital service for more than the year after graduation.

It is probable that the circumstance will be noted and proper consideration given before calling such men into the service, it being, of course, understood that the requirements of the service must govern action in all cases.

The American Hospital for Italian Wounded

In the spring of 1915 when Italy threw her lot with the Allies, a little group of Americans living in Florence established the American Hospital for Italian Wounded (Ospedale Territoriale No. 10 of the Italian Red Cross of Florence) as an expression of their love for Italy and their admiration for her heroic army. It opened in a small way with a few American women doing the best they could with a small amount of labor and financial support.

Since then, after the great drive on the Italian front, the hospital and its work has grown and expanded until today more than two hundred Italian soldiers and refugees are cared for, and the hospital is now supplied with a medical and surgical staff by the government, and ranks officially as a military hospital.

The hospital has been made of an old sixteenth-century palace, the Villa Modigliani, with some reconstruction to meet its present needs. The court and loggias are quaint and lovely and are ideal for the convalescent soldier patients.

In the basement, the rooms and plumbing were remodeled to care for newly admitted patients to put them in condition to be received into the hospital proper. The old Italian marble baths gave place to modern ones, equipped with hot-water plumbing, and rooms were made for disinfection and for laundering soiled linen and clothing. In the upper stories of the building, living rooms, corridors, and porches were reconstructed to make wards, operating rooms, and laboratories.

Memorial Hospital Richmond, Va., is building a $40,000 annex for contagious cases.

WAR TIME INSTITUTION ECONOMIES

Economy in the Hospital Pharmacy

By ASA S. BACON, Superintendent, and WILLIAM GRAY, Pharmacist, Presbyterian Hospital, Chicago.

The pharmacy must of necessity be of primary importance in the proper maintenance of a hospital. The pharmacy department of any hospital large enough, should have an experienced pharmacist in charge. It is good business to do so, for he will not only act as a safeguard to the patients, but he will save the hospital a great deal of money. The responsibility of handling drugs is too great to leave in the hands of an amateur pharmacist.

Most hospitals have to consider the financial side, and in doing so, the purchasing of the drugs often receive more attention than the preservation of them. There is also a temptation to purchase a cheaper and inferior article in these war times, while prices are so very high.

By cooperating with the members of the staff, interns, nurses, and pharmacist, the superintendent can keep his drug account within a reasonable limit without substituting an inferior grade. There are many ways of keeping down expenses without interfering with efficiency. For instance, pyramidon is very expensive and sometimes unobtainable. With the consent of the prescriber, we can use as a substitute phenacetin or antipyrin. If they are all too costly, solution of ammonium acetate can be used. There is a large saving if the pharmacist makes the testing solutions for the pathological laboratory, such as Haine's, Gram's, Hayem's, Benedict's quantitative sugar, Bang's, Lange's gold chloride test and many other solutions.

By at least four weeks' instruction in the drug room, the pupil nurses can be taught how to take care of deteriorating substances, and can obtain a general knowledge of the value of the various drugs. This is a very material advantage to both the hospital and the patient, first, because the patient will not be given an inferior or worthless preparation; secondly, because the nurse will know how to take the proper care of drugs in general and by so doing, conserve the interests of the hospital.

The following are a number of cases covering this point:

Do not use the following chemicals and pharmaceutical preparations except when recently prepared:

Solution of iron and ammonium acetate (Basham's mixture).
Solution of ammonium acetate (spirit of Mindererus).
Infusion of digitalis.
Solution of citrate of magnesium.
Diluted nitrohydrochloric acid.
Sulphurous acid.
Chlorine water.
Compound solution of chlorine.
Creosote water.
Solutions of potassium citrate.
Solutions of organic substances, such as morphine, strychnine, atropine, pilocarpine, eserine, cocaine, etc.

Do not expose to the light:

Phenol.
Resorcinol.
Alkaloids.

Iodides (codipin and syrup of ferrous iodide excepted).
Calomel.
Silver salts.
Chlorine and bromine water.
Compound syrup of hypophosphites.
Sodium salicylate and other salicylates, especially in solution.
Solutions of hydrogen dioxide.
Chloroform.
Bromoform.
Amyl nitrite and other nitrites.
Benzoic acid.
Salicylic acid.
Hydriodic acid.
Hydrocyanic acid.
Santonin.
Naphthalin.
Betanophthol.
Sulphurous acid.
Ferric salts.
Mercuric salts.
Volatile oils.
Nitrohydrochloric acid.
Trichlor-acetic acid.

Do not keep in a dark place, but expose to the light:

Ferrous salts and their preparations.

Do not expose the following to the action of air, as they readily absorb carbon dioxide:

Lead acetate.
Calcium oxide.
Lime water.
Ammonium carbonate.
Lead subacetate.
Magnesium oxide.
Theobromine sodio-salicylate (diuretin).

Do not expose volatile drugs to the air, and keep them in well-stoppered containers, as otherwise they will evaporate and lose strength.

Keep spirits of niter in a cool dark place, in a well-filled bottle.

Keep in a cool place:

Syrups.
Castor oil.
Cocoanut oil.
Cod liver oil.
Mucilage.
Suppositories.

There is a great deal to be saved by manufacturing your own pharmaceutical preparations, some of which are:

Elixir of terpin hydrate.
Elixir of terpin hydrate and heroin.
Elixir of terpin hydrate and codeine.
Elixir of iron, quinine, and strychnine.
Essences of peppermint, orange, lemon, etc.
Aromatic spirits of ammonia.
Antiseptic solution.
Alkaline antiseptic solution.
Tincture of iron and other tinctures.
Sterile solutions for hypodermic and intravenous use.

Ampoules are rather expensive. While, in general, it is safer to use hypodermic tablets instead of solutions, there are examples where great difference in cost should be considered. For example, compare the cost of pilocarpine hydrochloride by the ounce with the price of hypodermic tablets of this salt.

A great deal of money can be saved from the use of alcohol for germicidal use in the operating and dressing rooms. It has been shown that a solution between 50 and 70 percent is more promptly and actively germicidal than stronger solutions. The Presbyterian Hospital has used with success for several months solutions of from 50 to 60 percent. Why use a stronger solution?

A refrigerator is a valuable adjunct to the drugroom for the preservation of both essential and fixed oils, serums, and vaccines. If large enough, it can be used for the storage of mineral waters, ginger ale, and other bottled goods.

Barrel goods, such as compound solution of cresol and oils, when possible, should be purchased in steel drums instead of wooden barrels. To keep barrels from leaking, nail a few tacks around the edge of hoops, so they will not loosen, and keep water on the head. Attention must be given to faucets.

For labels, it is much cheaper to purchase strips and cut them as used, rather than use the colored border, cut and packed in box kind.

When using corks over and over again, use the largest size that will enter the bottle. If too small a size is used, the cork is destroyed by the use of a corkscrew or knife in drawing it. Too small a cork permits evaporation, which changes the strength of the preparations.

Use round bottles in preference to any other, for they are less apt to be knocked over. Watch waste receptacles for discarded bottles. They can either be used again or sold.

As there is likely to be too much waste and deterioration of drugs that accumulate in the cabinets on the floors from over-supply, it is well to have the pharmacist inspect these cabinets at regular intervals.

It will be found economical to buy petrolatum (vaseline) by the barrel or keg instead of cans. We also suggest purchasing talcum powder by the bag instead of by the box.

During the year 1917 the Presbyterian Hospital admitted 9,763 patients; 38 percent of these were medical. The drug department has two experienced pharmacists. Pupil nurses receive at least four weeks' instruction in the drugroom. The drugroom supplies for the year cost $6,866, an average of 70 cents per patient. This included alcohol, green soap, and many other items not entirely confined to the uses in the drug department.

The American Cooked Food Service

By BELLE J. MACDONALD, M.D., Consulting Physician of the Working Staff of the American Cooked Food Service, Former Medical Inspector in the Department of Health, New York City.

This service, as worked out by a group of prominent scientists and welfare workers, has the personal endorsement of Mr. Hoover of the Federal Food Administration, and, as a war measure, is of practical help in solving the war food question.

It is the purpose of this organization to (1) deliver cooked meals to homes; (2) provide special dietetic service; (3) train and furnish maid service by the hour; (4) furnish other practical and educational features to aid health, and household economy and efficiency.

General Plan—To provide adequate and balanced meals during the stress of high prices and possible food shortage is a problem confronting every household. Much is being done to increase food supply and its distribution, and to educate housewives in the planning and preparation of meals. Measures are organizing to enlarge the service of soup kitchens and other philanthropic agencies; but no practical movement has appeared to prevent underfeeding or ease household problems in the great mass of independent homes.

Successful Precedents—The delivery of cooked meals (menus entire or in part) is not new. It has been done on a large scale in London, is being extended there at the present time, and has been in successful operation in a comparatively small way in this country for a series of years each in Ohio, Illinois, Missouri, Point Loma, Cal., and at the present time in New Jersey. But the plan, so far as known to the committee, has never in this country

been tried on a scale to be of service to a large community, or with the correlated features of a choice in scale of prices, special dietary or health service, and maid service by the hour.

Homes to Be Reached—The independent, middle-class homes, sustained on from $1000 to $5000 and upward per year, would be reached by this service. It would not touch the two economic extremes—the people fed from soup kitchens and philanthropies, or those who can always command an army of servants.

Between those two extremes are the great mass of clerical, business and professional people who will feel keenly the need for household economics, practical assistance in changing dietary standards, and the decreased supply of domestic help. From this class will largely come the enormous additional army of women to be drafted into industrial service for the present emergency—women who are now wholly or in part carrying the work or direction of their homes.

For a large number of these people the delivery of one, two, or three cooked meals a day—probably in the majority of cases the dinner only—would solve the problem of keeping the home and family together.

Permanent Benefits—While this movement assumes an emergency importance at the present time, its need has been recognized for many years to meet the constantly decreasing supply of household servants and the increasing number of families whose earning capacity has to be augmented by the work of women members outside the home.

Even where these conditions do not prevail, the nutrition standard of a vast proportion of our population is below the level of health efficiency. The delicatessen store, from which thousands of families get most of their food, is largely responsible for the poor state of nutrition found in the children in the public schools. Even in neighborhoods where plenty of money is spent for food, the unwise choice of food or its imperfect cooking lead to malnutrition. Thousands of housewives, either through ignorance or unwillingness to spend the time and trouble necessary, or reluctance to use sufficient gas or other fuel for cooking, serve even the most simple dishes in so badly cooked a state that they will not assimilate in the body.

On the Dunfermline nutrition scale, which ranks a wholesome well-nourished child as 1, a child just short of this standard as 2, and cases of marked malnutrition as 3 and 4, the New York Board of Health has found only 31 percent of the 750,000 children in New York schools ranking as 1 (wholesome), 53 percent or 87,823 as 2, and 25,967 or 16 percent as 3 and 4. The conditions shown by these astounding figures account for much illness, backwardness in the schools, and lack of vigor and efficiency in later industrial life; they are probably the basis of a larger amount of susceptibility to illness in both childhood and adult life than any other one cause.

Where the mother of a home is also a wage-earner, these conditions are cruelly enhanced, and we are facing a situation in which these instances are to multiply rapidly.

Economy—It has been found that the method of supplying cooked meals is an economy to the individual family through wholesale buying and through saving of fuel, waste, upkeep of individual kitchen, cook, and maid service. Menus on a graded scale of prices would also admit of possible economies.

The saving of waste is one of the most economical features of a distributing kitchen. For example, in London it was found some years ago that for each thousand persons served in a year, enough grease was saved in the kitchen to sell for $5000.

Rural Service—Armies of laborers are being mobilized for the farms, but no special provision appears for feeding them. Farmers' wives cannot now secure adequate household help, and would probably welcome a cooked meal service. To deliver this would be practicable for farms within an hour's motoring distance of selected centers.

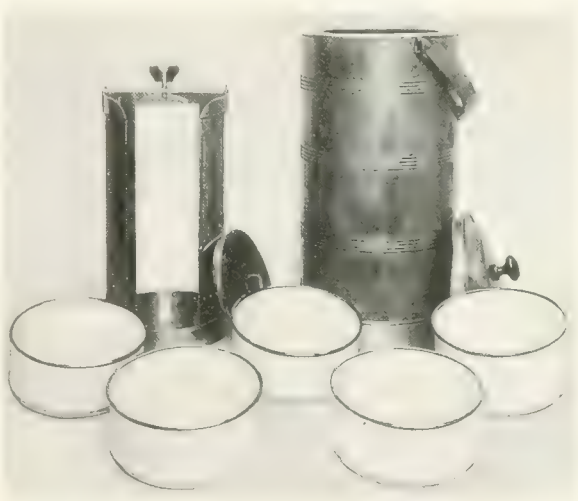
Such a movement should lead to permanent improvement of the nutrition of country dwellers, where recent health surveys show the standards of health and nutrition to be much below those of city dwellers.

Practical Details—The thermos and fireless cooker principles in containers make it possible to keep food steaming hot for hours. Such containers are in successful use. The packing and delivery by motor service are surprisingly rapid and inexpensive. In London it was found that cooking, packing, and delivery for one thousand persons could be done for the cost of maintaining separate kitchens for twenty modest homes.

These considerations have led to the organization of the American Cooked Food Service in New York City. On the consulting board, both as to nutritional experts and altruists, are the following-named prominent people: Mesdames Herbert L. Satterlee, Egerton L. Winthrop, Ransom S. Hooker. Drs. Henry Dwight Chapin, S. Adolphus Knopf, S. Josephine Baker, Thomas D. Wood, Charles A. E. Winslow, Graham Lusk, G. Reese Satterlee, Belle J. Macdonald, Prof. Irving Fisher, Mr. Cyrus C. Miller, Mr. Frederic S. Crum, Mr. Adolph Lewisohn, Miss Jessie H. Bancroft, and Mrs. William G. Shailer.

The cooking and distribution is in and from centers scattered through the city and serving prescribed districts, the limiting basis for most of these being the number of persons for which a home type of cooking could be done. This would be suited to the racial and other needs of different localities.

Containers—The cooked food is packed in containers that keep it steaming hot, ready to serve, and delicious in flavor for several hours. Each course for a family is in a separate bowl-like inset of alumnium. These insets are stacked in the order of the courses (soup at the top and dessert at the bottom), clamped together and packed in a cylindrical shell, thoroughly insulated. A separate container will hold salads and other cold dishes.



Container of general type to be used in New York service.

Delivery—Each regular patron family will have its own registered container delivered by motor service shortly before meal time and called for at regular times thereafter.

Health Service—Trained dietitions will insure *balanced meals* as to chemical essentials (proteids, carbohydrates, fats, mineral salts, etc.), and thus prevent underfeeding in times of food shortage.

Special dietary will also be furnished as desired.

Cost—Two grades (or more) of service as to cost will be available, one at the lowest price that can be furnished, the other more elaborate and expensive. *Both will observe strictly all war regulations.*

The lowest priced service will approximate the cost of the raw food stuffs to the retail buyer, the advantage of wholesale buying nearly offsetting the cost of the central service and motor delivery. Economies for the consumer will lie in lessened domestic service, and in fuel and upkeep of the individual kitchen.

The more elaborate and expensive service will be lower than most restaurant and hotel charges.

LOWEST-PRICE DINNERS (35 CENTS)

Typical Sunday dinner menu:

Consomme
Chicken fricassee or Pot roast
Mashed potatoes
Onions or Carrots
Rolls Nut butter
Prune whip or Buckwheat apple shortcake

Typical meatless Tuesday menu:

Vegetable soup
Boiled fish or Bean loaf
Potatoes or Rice
Rye rolls Nut butter
Escalloped tomatoes or Cabbage salad
Indian pudding or Raisin pie

Typical wheatless Wednesday menu:

Barley soup
Irish stew or Breast of mutton
Potatoes
Cabbage or Spinach
Rye and corn bread Nut butter
Stewed apricots or Tapioca pudding

Typical menus:

Fish chowder
Meat pie or Baked beans
Baked potatoes
Boston brown bread or Rolls Nut butter
Carrots or Onions
Small cakes or Lemon jelly

Cream of pea soup
Baked fish or Turkish pilaf
Potatoes
Salsify or Parsnips
Corn bread Nut butter
Dutch apple pie or Norwegian pudding

LOWEST-PRICE LUNCHEON (25 CENTS)

Typical luncheons:

Barley soup
Vegetable pie Brown gravy
Hoover rolls Nut butter
Rice pudding
Tea or Chocolate

Chicken bouillon
Banana and grapenut salad
Cornbread sticks Nut butter
Orange jelly
Tea or Chocolate

Tuna fish salad or Chicken croquettes
American bread Nut butter
Lemon pie
Tea or Chocolate

MEDIUM-PRICE DINNERS (50 CENTS)

Typical Sunday dinner menu:

Consomme or Oyster cocktail
Roast turkey or Roast beef (rib)
Cranberry sauce
Mashed potatoes
Carrots or Onions
American rolls Butter
Lettuce salad
Coffee sponge or Apple pie

Typical meatless Tuesday menu:

Vegetable soup
Boiled fish or Chicken fricassee
Potatoes or rice
Escalloped tomatoes or Carrots
Rolls Butter
Celery salad
Fig pudding or Caramel custard

Typical wheatless Wednesday menu:

Barley soup
Beefsteak or Escalloped Oysters
Potatoes
Cabbage or Spinach
Rye and corn bread Butter
Waldorf salad
Orange jelly or Mince pie

Typical menus:

Clear tomato soup or Vegetable soup
Roast pork or Rabbit a la Southern
Samp or Sweet potatoes
Turnips or Onions
Graham rolls Butter
Lettuce salad
Chocolate blanc mange or Apple sauce cake

Creole soup
Roast beef or Baked beans
Baked potatoes
Boston brown bread or Rolls Butter
Carrots or Creamed celery
Lettuce salad
Apricot tarts or Loganberry jelly

SPECIAL $1 DINNER

Roast chicken
Riced potatoes
String beans Rolls Butter
Romaine salad Cheese balls
Ice cream Cake
Coffee

Onion soup au gratin or Vegetable soup
Roast beef, sliced
Brown potatoes
Stewed corn
Hearts of lettuce salad
Rolls Butter
Delicious apple pie
Coffee

Clam broth
Beefsteak Mushroom sauce
Broiled parsnips
Rolls Butter
Olives
Tomato and lettuce salad
Spanish cream in cups
Coffee

The world is old and thou are young,
The world is large and thou art small,
Cease, atom of a moment's space,
To think thyself an all in all.

—From the Kasidah, translated by Sir Richard Burton.

A $45,000 addition is being erected for the Georgia Baptist Hospital at Atlanta.

THE WAR: ITS HOSPITAL, MEDICAL AND NURSING ASPECTS

CANADIAN MILITARY CONVALESCENT HOSPITALS*

Some Features of Special Interest—Accommodations Increased Nearly Six Times Since January, 1917

Construction, a Canadian architectural journal published in Toronto, devotes a very interesting number to Canadian military hospitals. Our neighbors across the border have been engaged so much longer than we have in the work of providing for wounded soldiers that their experience has great value for the United States. We believe it worth while, therefore, to give our readers a brief review of this excellent number.

Fig. 1. Typical ward in Drummond Convalescent Hospital, Montreal, Quebec. This space, which now forms a room 100 feet long, was formerly occupied by fourteen separate rooms and the connecting corridor. The floors were strengthened with additional steel beams and columns, and this is typical of the work necessitated by the remodeling of existing buildings for hospital purposes.

The leading articles discuss "Canada's Military Convalescent Hospitals," "The Kitchen and Dining-Room Problems," "Converting Immigration Sheds Into Hospitals," "Care of Soldiers Suffering from Tuberculosis," and "System of Hospital Construction."

MILITARY CONVALESCENT HOSPITALS

On January 1, 1917, we are told, the Military Hospitals Commission of Canada was caring for 2,400 returned wounded soldiers. On August 7, 1917, according to *Construction*, the number had increased to over 8,500. The number of patients in February was 11,000 and the hospital beds, exclusive of discharge depots, was 12,291. Discharge depots contain 2,300 additional beds. The commission is better abreast of the situation now, with about six times as many patients to care for, than it was a year ago. "From a building man's standpoint the notable fact about the commission has been its creation of a new type of building—the military convalescent hospital."

The first convalescent homes were converted private residences, which had, for ambulatory convalescent patients, the advantage over the existing general hospitals of being usually surrounded by grounds. A disadvantage which soon became apparent was that the cost of adapting these small buildings to hospital uses was out of proportion to the results obtained.

The next measure tried, therefore, was to take over larger buildings. Colleges were found to possess peculiar suitability for this purpose, since they usually have large kitchens and dining rooms, class rooms suitable for dormitories, and, in some cases, open dormitories capable of holding twenty or thirty beds each. A number of colleges were accordingly taken, among them Loyola College, Drummond Street, Montreal. The cost of remodeling a building capable of accommodating 200 beds, however, was equal to that of erecting a building of the same capacity of the type since evolved by the commission. Moreover, "a feature not often regarded by the public is that the agreements in regard to most of these buildings oblige the commission to return the buildings as they were found, thus doubling the cost." Hotels have been offered to the commission, but the cost of remodeling a good hotel makes the type of building almost entirely unsuitable. "The next development was the decision to use certain existing buildings for what they were worth without very great alteration, and to add specially constructed wards as temporary wings."

An example of the buildings thus used in the Booth Memorial Home, North Toronto, a building originally intended as a training school of the Salvation Army, which was taken over when half completed. The original building was devoted to administration and infirmary purposes. Several acres of vacant land adjoin-

Fig. 2. Cafeteria at Drummond Convalescent Hospital.

*The illustrations accompanying this article are reproduced from *Construction* by courtesy of the Military Hospitals Commission of Canada.

ing gave ample room for the erection of ward wings, but the situation of the original building facing south, gave rise to a serious problem in orientation. The only place where a wing could be successfully attached was to the north at the rear, an undesirable site, since the constant aim was so to place the wards as to allow the sunlight to enter freely. This end was attained by erecting directly behind the original building a large service building and running a connecting corridor directly northwest, thus making it possible to erect two two-story ward wings, accommodating 300 beds, facing southeast, "an angle considerably at variance from the main building and not commended for its beauty," but desirable because sunlight is thus admitted.

Fig. 3. Eighty-four-bed ward at Manitoba Military Convalescent Hospital, Winnipeg, Manitoba. This institution contains 750 beds, and the reduction in proportionate overhead administration cost in an institution of this size has been proved to be enormous. It is typical of the next stage in hospital construction after that typified by the Drummond Street hospital, shown previously. The nucleus of the Manitoba hospital was the old agricultural college at Winnipeg, which, converted through the addition of one or two special ward wings and a central dining building, forms one of the most satisfactory institutions under the Military Hospitals Commission.

The new wards are devoted to convalescents, and these convalescent wards are regarded as presenting a typical feature of the Canadian Military Hospitals Commission construction. Each wing contains two wards of seventy-five beds each. Immediately after the corridor in these wards is the service block which contains toilets for patients, linen rooms, sinks, baths, showers, diet kitchen, doctor's consultation room, nurses' room and sometimes a small observation ward of two beds. A solarium furnished with easy chairs, card tables, etc., for use as recreation and smoking room by the patients, is always placed at the end of the ward remote from the corridor. This solarium is closed in but is provided with exits which can serve as fire escapes in the remote possibility of a fire.

The ward of 75 beds was at first regarded as a convenient unit to administer and hence became a typical feature of Military Hospitals Commission construction. Later experience, however, has warranted variation from the type just described. At the Cobourg Military Convalescent Home, for instance, the connecting corridor meets the middle instead of the end of the wing, which is thus divided into two wards of 35 or 40 beds each. At Cobourg only one service block of 75 beds is provided, but at other later institutions service conveniences are provided separately for each of the wards.

With the development and expansion of hospital work it became necessary to have large hospitals in some places where no buildings existed to which additions could be made. The Military Hospitals Commission therefore decided to build for itself.

"Through the evolution of the ward wing and service wing a type of construction had been worked out which was considered to be suitable. Experience has shown that a whole new hospital can be erected along this line at less cost than old buildings could be adapted. The 300-bed hospital at Camp Hill, Halifax, is the first absolutely separate hospital building started by the Military Hospitals Commission and it has proved so far ahead of anything else the commission is using that it is doubtful if old buildings will ever be taken over again except in rate cases."

Fig. 4. View in the balcony of Queen's University, Kingston, Ont., now used as a convalescent hospital, showing how partitions were erected to protect the decorative work on the pillars.

The next institution to be erected by the Military Hospitals Commission will have accommodations for 900 beds. Ste. Anne de Bellevue, Quebec, was the first selected, and others are now under way at London, Ont., and Calgary,

Fig. 5. Pier 2, Military Reception Hospital at Halifax, N. S. Hospital ships discharge at the wharf in the foreground, the upper floor being used as a temporary hospital. Hospital trains load on the lower floor. The lighting problem has been solved by substituting glass for all the big roller doors with which the sides were lined for disembarkation purposes.

Alta. The plan provides for ready expansion. It is intended that at first only a 600-bed structure shall be erected, two outside wings being added later as required and other additions being possible in a similar way. The central block is for administrative offices. Lateral corridors extend each way, leaving 38-bed wards in each side, each ward having its own service suite, toilet, nurses' office, linen rooms, etc., adjoining the corridor and a solarium at the end remote. There will be service suites for each 38-bed ward. Small structures between wings containing operating rooms, special treatment rooms for hydrotherapy, cloak rooms, etc. One wing is to be intended as an infirmary, and a service suite is planned accordingly with diet kitchen and observation ward. Running back from the administration block is another corridor leading to the dining room after which corridor is the kitchen and store rooms. Provision is made for a separate power plant at the rear.

Fig. 6. Typical ward at Pier 2, Reception Hospital, Halifax, N. S.

It is essential that the whole institution be located near the railway on account of the enormous quantity of supplies required daily not to mention transportation of patients.

It has been found that there is great economy in one large centralized institution over a series of small ones. It is possible to attract a higher class of officials and medical men to a large institution and a reduction in proportion of overhead, administration cost has been found to be enormous.

The equipment required for vocational training in particular could not in justice to the tax-payers be duplicated in small centers all over the country. It is said that a population of 12,000 or 15,000 convalescents is by no means an impossibility within the commission's institutions inside of a year's time.

HOSPITAL KITCHEN AND DINING ROOM PROBLEMS

These are discussed by Miss Violet M. Ryley, organizing dietitian of the Canadian Military Hospitals Commission, whose article on "The Work of the Dietitian in the Canadian Military Hospitals" appeared in THE MODERN HOSPITAL in February. The dietary department has six parts: (1) dining room; (2) kitchen and serving room; (3) special ward serving pantries; (4) storerooms; (5) dishwashing and scullery rooms; (6) office.

Fig. 7. Reception hospital erected in armories at St. John's, N. B., for emergency use.

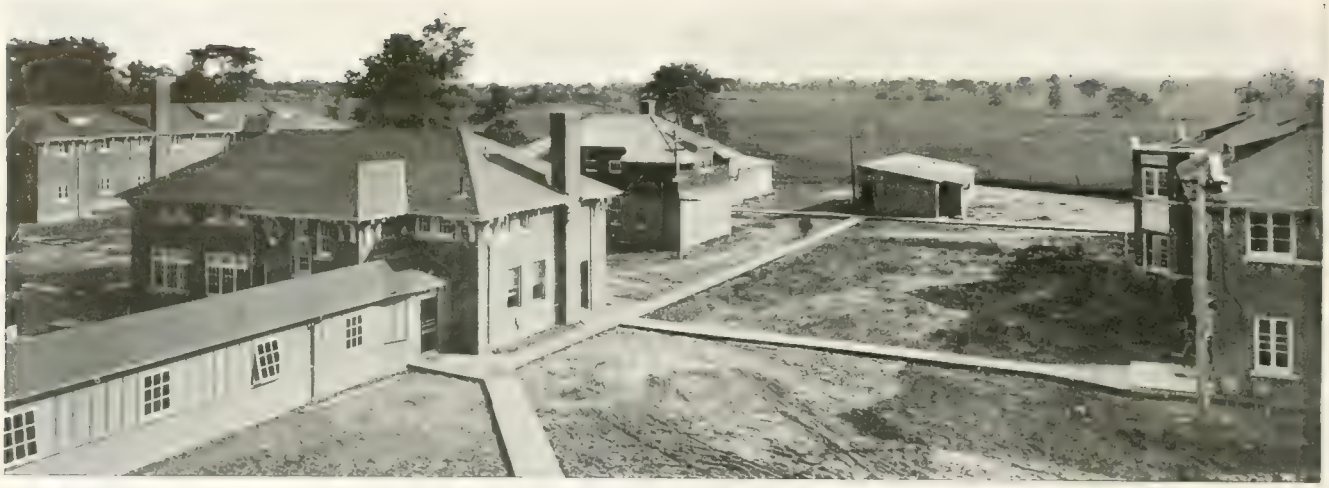


Fig. 8. Bird's-eye view of new buildings erected at Mountain Sanatorium, Hamilton, Ont., for the care of returned tuberculous soldiers. In the center are the dining hall and service buildings, with a new pavilion on each side.

1. The dining rooms in orthopedic hospitals are fitted up for ordinary waiter service, because so many of the patients are cripples. In a regular convalescent home, where the men are merely resting and being built up, the cafeteria system is used, as service is thus more rapid, and hot food is served hot and appetizing. In very large dining rooms, two cafeteria serving counters are installed so that two series of men may be served at once. A record of 600 meals in fifteen minutes was set up in one institution.

Fig. 9. Thirty-two-bed pavilion at Kentville Sanatorium, Kentville, N. S., a building typical of the structure evolved by the Military Hospitals Commission for tuberculosis work.

2. The kitchens are fitted with the latest steam and electrical equipment, such as three-compartment vegetable steamers, steam-jacketed stock pots and soup kettles, and electrical vegetable parers, meat-choppers, ice-cream freezers, and ice-crushers.

3. The food for men too ill to leave their beds, if the wards are at a distance from the main kitchen, is served from a special serving pantry, equipped with a small steam table, a gas or electric plate, hot water and coffee urn, small refrigerator, etc.

4. The storage department contains a large general grocery store room with dry groceries for a month or two, the cereals being carefully protected from mice or insects in a separate specially constructed metal lined room. The general store room has certain spaces assigned to the storage of case goods with canned goods in less than case amounts arranged around the walls on shelves, below which stand ordinary garbage cans for cereals in less than bag amounts. This receptacle, Miss Ryley says, has proved superior to bins in several ways. The cold storage plant contains from three to five small rooms, one for fresh meats, one for dairy products, another for cold meats and left over desserts, and a fourth for fruits and vegetables. Mechanical refrigeration is found particularly satisfactory because it gives the lowest temperature and eliminates the labor of handling, a considerable item, where several tons a week are required.

5. The dishes are washed in an electric dish washer and all pots and pans in large sinks where they are washed in clear, hot, soapy water and rinsed in hot clear water. The garbage tins are cleaned in a separate sink and sterilized with live steam.

6. The dietitian's office is furnished with a desk and filing cabinet, the latter containing a copy of all menus served to patients, cost records and plans of work for employes.

CONVERTING IMMIGRATION SHEDS INTO HOSPITALS

One of the most difficult things accomplished by the Works Branch of the Canadian Military Hospitals Commission was the conversion of two huge cement immigration sheds into first-class hospitals. Although these gaunt structures are as bare of anything that would rest the eye or cheer the soul as any edifice made by human hands, it was natural, now that the only immigrants to Canada are home-coming Canadians returning from the battlefield, that these new fire-proof government-owned buildings, built rather out on the docks, should be turned over by the immigration department to the Military Hospitals

Fig. 10. Junior pavilion erected at Queen Alexandra Sanatorium, Byron, near London, Ont., by the Military Hospitals Commission. These small one-story structures, planned like the wards in a large pavilion, have been erected to meet immediate needs when it was found impossible to erect the large pavilions as fast as needed.

Commission. Both buildings are now used as reception and clearing hospitals for all classes of returned soldiers. The chief handicaps to be overcome are poor lighting due to the tremendous width of the buildings and gloomy aspect due to absence of paint.

The lighting difficulty was overcome at Halifax, the larger of the two sheds, by substituting glass in all the large roller doors with which the sides were lined for disembarkation purposes. A row of skylight boards was installed underneath the monitor extending from end to end of the building. Two wide corridors flanked the central wards and the outer wards are lighted from the ingeniously contrived window doors just described. At Quebec the building is narrower, and sufficient light is available for ward needs, the only aisles being at the outside. In each depot a tuberculosis hospital has been installed at the sunny end of the pier, the cement wall being opened up to give way to a glass front and other conveniences of a first-class sanatorium being provided.

Fig. 11. The tent colony at Kentville Sanatorium. The tents have windows, lavatories, and running water.

At Quebec there is a roof garden to which the beds can be wheeled through special wide doors. Recreation rooms and canteens are provided at both places, but, as it is not intended that the men shall stay at these institutions for more than a few days at most, certain services found in the convalescent hospitals are not provided here.

CARE OF SOLDIERS SUFFERING FROM TUBERCULOSIS

The first measure taken by the Military Hospitals Commission of Canada in caring for tuberculous soldiers was to take over and develop the Sir Oliver Mowat Sanatorium, which, having 220 odd beds, is now probably the largest tuberculosis hospital in the Dominion. The building was originally a historical old residence in Portsmouth at Kingston, Ont., which was adapted for use in connection with pavilions which were erected at once. An enclosed sun balcony was built for the fever patients.

The pavilion design adopted calls for 32 beds in two stories with two wards of 8 beds in each, fronting southeast, the whole front of the building being glass with movable sashes. For summer use the sash is thrown up or replaced with screens.

A later model calls for fifty-bed pavilions, as this size was found to be practicable. The building is in three sections from front to back. In front is the balcony with reclining chairs for daytime use, next the bedroom with its row of beds and bedside tables, and at the rear the individual dressing rooms which are the only portions of the building heated even in the dead of winter. The 12-bed wards are separated from each other by a large recreation room which in some cases has been built to project to the north some distance over the rear of the wards, giving the building a squat "T" shape. Lavatories are located in the dressing room strip, accommodations for each 12-bed ward being provided in one central compartment. Each building is provided with a diet kitchen and a nurses' room, but not with a dining room. Sick patients are fed from trays at the bedside and ambulatory patients walk to the central dining room.

It has been impossible at times to erect 32-bed or 50-bed pavilions as fast as they are needed and "junior" pavil-

ions, so called, have been substituted. These are one-story structures containing 8-bed, 10-bed or 15-bed wards, planned in the same way as the wards in the large pavilions. Individual hot-water heating systems have been used in emergencies for pavilion dressing rooms, but a central heating plant is planned at each place.

The tuberculosis sanatoriums erected by the Military Hospitals Commission were planned to be permanent additions to Canadian facilities for combating tuberculosis. The commission, moreover, contemplates erecting a 1000-bed sanatorium containing groups of pavilions built on the same principle as those now erected. There will be two groups of pavilions, each group accommodating 500 beds with an administration building between the two groups, and north of the administration building the dining and kitchen building. A large infirmary building for each group with accommodations of perhaps 100 beds will be provided at the rear of the dining rooms. Recreation buildings, vocational training shops, power plant, officers' and nurses' residence are to be provided in separate buildings. Only one group of 500 beds will be erected at first. A peculiarity of the group is orientation, symmetry being abandoned to a certain extent in order that all wards may face southeast.

The Kentville Tent Colony is the result of the emergency which arose when an unexpected number of tuberculous patients was discharged at Halifax. In eighteen days complete housing under canvas was provided for 160 patients. The place selected for the colony was particularly suitable in orientation, appearance, drainage and supervision. At the rear of the sanatorium grounds there is a flat plateau at the northeast corner of which is a crescent-shaped hill.

The tents were laid out on a 30-foot center and 6-degree curve exactly suiting the crescent shape of the brow of the hill. On a radical line struck in the middle of an arc at the rear is located the ablution tent. On a low level at either side of the same axis are placed the nurses' and orderlies' tents. The patients' tents are 16 by 24 feet with 7-foot walls erected on 2 by 4 framing and stretched rigidly over it. Each tent was provided with a ply and two vents at the top with weather flaps, also two weather flaps at the end and eight windows, four on each side, each provided with weather flaps and draw blinds. The wards are lined with 10-ounce duck. Each tent has a 7-foot flap at each end which is raised on poles to form a sunshade. The floors extend 7 feet at each end to form verandas under the flaps. The ablution tent, similarly constructed, is provided with lavatories, water closets, showers, and tooth basins for 160 men. A sewer was connected 450 feet away to the sanatorium sewer.

SYSTEM OF HOSPITAL CONSTRUCTION

J. H. W. Bauer, assistant in charge of the Works Branch of the Military Hospitals Commission, says that while the convalescent homes have been constructed in the same permanent manner and are styled "temporary" buildings, they are somewhat better than temporary structures and can readily be converted into permanent buildings. The foundations for these buildings are of the post-and-sill type. The finished walls of the interior usually consist of a patent board, the merits of which consist in ease and rapidity of application, desirable decorative possibilities, and sanitary finish. The two kinds of patent wall board which are most generally used now are both fireproof, one of them being called, because of its composition, "linabestos."

To the exterior sheeting of the building is applied one ply of heavy building paper which is strapped by ½- by 2-inch furring to which wall laths are applied and the whole then plastered with two coats of cement stucco. The flooring is composed of one ply of rough boarding to which is applied one ply of No. 1 maple placed upon one ply of heavy builder's paper. The tops of ceiling joists are always rough boards in order to better insulate the air spaces between joists and roof against heat and cold.

The Camp Hill Convalescent Hospital at Halifax is the only one so far erected with a view to permanency. Here the foundation is a 16-inch concrete wall in the entire building and concrete foundation piers are substituted for wooden posts. From this up the post-and-sill construction is still used. With a view to the semi-permanency the foundations are left one brick wide outside the main wall in order that the buildings may at any time be veneered with brick.

Some buildings now intended to be permanent will be constructed with concrete foundations, steel beams, wooden floor joists, steel columns, hollow tile walls with either stucco or brick veneer finish and plastered with two coat work on the outside. All buildings proposed to be permanent or semi-permanent are roofed with at least a three-ply Barrett specification tar and gravel roof.

Hospital Supplies Should Have Priority in Shipment

The war service committee of the American Hospital Association reports the receipt of several communications from hospitals complaining of delay in transportation. It seems that there is difficulty in securing priority in shipments for less than carload lots. There is danger that the difficulty of obtaining hospital supplies will increase. It appears desirable, therefore, to have as much information on the subject as possible available for use in Washington. Hospital administrators who have any difficulty in obtaining supplies will do well to report the matter to Mr. Richard P. Borden, secretary of the special committee on war service of the American Hospital Association, 728 Seventeenth Street, Washington, D. C. The information furnished should be as specific as possible, and should deal not only with the scarcity of supplies but also with the quality, etc., especially the quality of available surgical instruments, drugs, chemicals, and other distinctly professional equipment. All information which is either marked confidential or evidently of a confidential nature will be so regarded.

A Visitors' Dining Room

Not long ago, when we were visiting a very new and well-equipped hospital of 150 beds, the superintendent, while showing us over the first floor of the building, threw open a door and said, "This is one place I want you to see. The board of trustees and the architect and builders could not at first see my point of view in wanting to build it, but it has more than proved its usefulness. It is a visitors' dining room. Anyone who lives in hospitals can tell you of the numerous requests for extra meals to be served—relatives who want to be near a patient in serious condition or to keep him company during a tiresome convalescence—mothers who must stay close to the babies or young children—people from out of town—relatives and friends of doctors and nurses—all use this convenience and are glad to pay the fifty cents charged for a meal here. We have served nine hundred meals during our first year. Besides furnishing a courtesy and kindness to our guests, it saves work and worry for the nurses and dietitians and avoids the confusion of serving extra trays in the patients' diet kitchen." The idea is worth passing on to other hospitals about to build.

INDUSTRIAL REHABILITATION OF DISABLED SOLDIERS AND SAILORS

Conducted by ELIZABETH G. UPHAM,
Director Art Department Milwaukee-Downer College

As the workshop idea in hospitals is developing and assuming a real importance in the rehabilitation of the handicapped, those who are intending to begin hospital work will be interested in the following article by Miss Rachel Horner, former director of the industrial and recreation department of Muirdale Sanitarium.

The workshop at Muirdale has been one of the most successful hospital workshops in the country. Its organization and development took place under Miss Horner's leadership with the valuable help of Dr. Bellis and Dr. Cohn of Muirdale and the hearty cooperation of the Wisconsin Anti-Tuberculosis Association, the county administration board and the committee on county institutions of the Milwaukee City Club.

In spite of the uncertain war conditions of the past year, orders have never diminished and the Muirdale workshop is continuing to have a financial gain. Aside from any financial proft, however, the shops have proved such a sound medical policy that they are justified as an economic measure in shortening the patient's convalescence and in building him up for useful employment instead of later dependence upon county support or private philanthropy.

Miss Horner tells how to begin, how to secure the patient's cooperation, what obstacles may be expected, and what successes anticipated.

The Workshop Idea

By RACHEL HORNER, formerly Director Industrial and Recreation Department, Muirdale Sanatorium, Wauwatosa, Wis.

The other day I had a letter from a man in Albuquerque, N. M., who, "having been a victim of tuberculosis for over two years," was interested in the problem of how the patients can employ their time profitably. He thought that "most of us tuberculous need workshops worse than sanatoriums," and he wanted a few suggestions for starting his idea, which was "to have a municipal workshop established for the tuberculous 'bums' around here." In a way this gentleman was right, for, while the tuberculous do need, first, more well-equipped sanatoriums, they need, more and more, the workshops connected with the sanatoriums. There ought to be a workshop in every sanatorium in this country.

All that is needed to start a sanatorium workshop is a few hundred dollars—$2,000 at the most—one or more large, well-lighted and airy rooms, and a teacher or two, depending upon the number of patients "on exercise." Having the money, the place, and the teacher, the very first thing to do is to get acquainted. I should say that this is the cornerstone upon which the teacher is to build the success of the workshop. Meet and ask for appointments with all the physicians, social and public welfare workers in your community, interested in your idea. Meet all the friends of your idea, as far as possible. Tell them what you are going to do—that you just want a few minutes to talk it over with them—and ask for their suggestions upon the new workshop about to be put up in their community sanatorium. Further, if possible, meet one or two enemies of the idea—hear what they have to say—it will put you on your mettle and keep you there. The best encouragement I got when I started in was from a well-known Milwaukee doctor who told me that I must not imagine that I was falling into a sinecure, because such a thing as a workshop in our sanatorium was something that could not be done.

Next, get acquainted with the patients themselves. If possible, take a few weeks to visit the homes of former patients. Some you will find happily at work; others idle and useless—beaten victims of their disease. Talk over your workshop idea with them, and hear what they have to say about their experiences in the sanatorium. This is the quickest way to get the point of view of the patients. You will find them ready to help you with any amount of advice, much of which is useless, but these visits gain you friends and acquaintances among the people to whom henceforth you are to be official friend. You soon come to know their families and feel drawn to them in genuine human friendliness. Train your mind to remember the interesting little facts and details of their lives. Some of these people may come back to the sanatorium one day, and the fact that you remember that "tiny Tim" was hurt while running to a fire, or that Mr. M.'s potato crop was a bumper one, will endear you to them as their especial friend.

By this time the tools and materials which you have ordered some time ago for the workshop, all of which you have purchased as far as possible from local dealers, will have arrived, and now comes the pleasure of making the acquaintance of the sanatorium patients themselves.

At the very beginning, your superintendent, the physician in charge of the sanatorium where you work, will give you his rules and suggestions for the game and make you acquainted with the rest of the staff and the nurses. He will tell you that you must not for one instant forget the medical point of view in your work, and that you will find ready cooperation with your work in the other employees in the sanatorium. All of the ambulant patients needing "exercise" will do either light housework or work in your shops. It is for you to decide, according to the inclinations and abilities of the patients. You are to bear in mind that the amount of time prescribed to patients for exercise depends upon the doctor alone in charge of them. This exercise is prescribed like so much medicine, depending upon his examinations of their condition. If he orders the exercise to be for fifteen minutes, half an hour, two hours or four, for four patients respectively, they must work just that long and not longer, otherwise you are assuming responsibilities not yours.

One of the greatest difficulties of this work is that of reaching in the right way the patients themselves, at first. Be friendly, no matter what they do or say. Never forget that they are sick and that each in his own way is making a big fight. Firm but persistent friendliness wins them over to the idea in time, if they are against it in the beginning. A great deal of the success of the workshop depends upon having the patients take up the idea voluntarily. Make it their problem as well as yours. Once well started, they take it up willingly and for the most part eagerly. Going among them at first you will find them,

during their hours of recreation, at various amusements. Perhaps one is making sketches, another learning how to write, another whittling or playing the victrola, or a group playing cards. Generally there will be one or two sitting about doing nothing and looking stupid. This last group, if sent to you for exercise, we may as well dispose of right here, because you will have them with you always in any sanatorium. Give them every chance that you possibly can in the crafts. If hopeless, put them at housework. This group must not be confused with another, consisting of capable, intelligent patients, who are given housework to do because they must have exercise, and who for one reason or another have neither the desire nor the ability for handicrafts of any kind. I mention housework as the alternative, but it is to be understood that this matter depends upon the kind of sanatorium in question. In private sanatoriums where patients are allowed to walk about freely, the choice is easy, but in public sanatoriums it has been found wisest not to encourage free mingling among the patients; hence the choice is perforce narrowed to the foregoing.

To return to the patient sketching: catch his attention at once by giving him instruction and something definite to do. Take some of the others to the shops with you, show them your plans for workbenches, tables, and lockers; talk it over with them; get their suggestions. The discovery soon comes out very easily that you have at hand carpenters, cabinet-makers, shoe-cobblers, etc., skilled workmen of those trades before they broke down.

While you are paving your way with the patients, different members of the staff will have been giving talks to them upon the workshop idea, explaining to them what you are there for and what you are planning to do. Therefore from the start assume that your orders and suggestions are to be obeyed instantly. If you find disobedience let it go, since they are sick people they are apt to be stubborn and touchy, but at the earliest opportunity attack them with the same order or suggestion again, but couched in different terms—camouflaged, as it were. Most of the male patients come from former occupations where a shop boss or foreman was over them. From force of habit they obey instantly an order given straight from the shoulder. Be as gentle as your natural disposition allows you to be. I repeat, above all things, be genuinely friendly and human. This attitude will not in any way jeopardize your authority or lessen your dignity; on the contrary, it will gain you much in every way. Once they have faith in you as their friend, the patients will back you and your idea loyally before all comers, and with that sort of bond between instructor and patients the workshop cannot help but be a success.

It is best not to take for granted everything that a patient says about his skill and prowess in former occupations. He often misjudges his abilities and sometimes simply does not tell the truth. It is simple to find out his capabilities by more practical means, because too, many have become weakened and have deteriorated mentally and physically through disease. I used a few little tests and followed the results as guides to the patient's future work and placed each accordingly, allowing to each his or her preference as far as possible. Some of these tests were as follows:

1. Contests in shuffling and dealing a deck of cards. Some patients were quick and efficient, others methodical or slipshod; one or two would go to pieces before the crowd, but do very well by themselves.

2. Exercises in reading, writing, and figuring, the results of which can easily be imagined among a group of patients, mostly foreigners. To the most urgent and deserving of these I gave lessons in English and elementary arithmetic.

3. Exercise in folding up a newspaper properly, according to a newsboy's idea, in a tight roll for delivery at one's doorstep—a simple test requiring ability to observe and execute quickly.

4. The patient's general appearance, speech, neatness, and taste in dress told much in judging his character.

5. The steadiness or unsteadiness of a patient's hands told me whether he was best fitted for work requiring patience and skill in detail, or otherwise.

6. Giving the patient a simple task to perform like straightening up a litter on a table, and telling him explicitly how to perform it, to determine whether he was able to obey directions or whether he was going to do it in his own way, contrary to orders, perhaps incorrectly, willy-nilly. To find this out at the start saves later waste of time and mayhap valuable materials.

7. The way in which a patient addressed me showed me what the personal relations between us, as instructor and pupil, were to be. Being a woman, I had some trouble here, because some were of the rough foreign type, used to bullying women. It was the Americans among the patients who did the most to correct this wrong attitude towards women on the part of some of the foreigners.

8. Nail-driving contests, etc., in which we made a study of how to conserve energy by eliminating unnecessary motions. Through this last set of tests under No. 8, I was able to pick the men who were to help me as instructors to the other patients.

At the Muirdale Sanatorium workshops, Wauwatosa, Wis., the idea of graduated industrial exercise has proven to be very successful from both the medical and the practical business points of view. The shops there have made good financialy, and industrial recreation for the patients has come to be a necessity in the regular routine of their care and treatment. I shall refer to these points in detail later. It took three months to install and organize the Muirdale industrial recreation department. The following courses were offered for instruction: arts and crafts, basketry, carpentry, and manual training, including toy-making, shoe-cobbling, and photography. A special department known as the repair shop was always a very busy one; there all kinds of articles from the hospital, such as chairs and tools requiring repairs, were mended. Other crafts may be added best suited to the particular and practical needs of each locality. I have heard of an automobile repair shop for tuberculous convalescents at Valmora Sanatorium, Valmora, N. M. In Arequipa, Cal., the patients are turning out wonderfully artistic pottery. At Marblehead, Mass., among other things they make cement garden furniture. Chair-caning is a practical suggestion, gardening another. The more practical crafts succeed better, and the financial success of a shop where two or three of them are taught is assured because there is bound to be a demand for instruction. To this, too, I shall refer later.

At Muirdale Sanatorium, on a suggestion from the superintendent, Dr. Glenford L. Bellis, we ourselves made all of our own workbenches, tables, lockers, hoods, etc. This suggestion was no less than a stroke of genius, not only because it saved us nearly $1,800, but also because it gave everyone, patients, outside friends of the idea, coworkers, instructors, and all, a chance to feel that he or she was doing an active part to create a truly worthwhile organization. Hence all of these people helped to push it along. We encouraged the newspapers to talk

about our shops every now and then. Interested vistors from all over came out to see what we were doing. Whenever possible, the author of each and every suggestion put into practice was given his due. We all felt a great personal pride in having our ideas and little suggestions working out so well. The patients felt that they were really the fathers to the whole thing, and, in a way, they were, for their cooperation was splendid. They brought down their families each week to watch things grow. Mr. S. would point to a unique and very useful tool—a private invention of his—with tremendous pride. Perhaps a very substantial joint was the wonderful child of Mr. O's fancy. To all interested comers the peculiar merits of this joint would have to be explained. And now let me clinch the point that is the whole aim of the workshop idea. These things do the patients so much good, because they help them to take their minds away from themselves.

I had working under me for many months a Russian who could not speak a word of English. I taught him by first doing the thing myself and then motioning him to do the same. For a long time he could not understand just what we were trying to do. Interpretation from fellow countrymen speaking a little English did not seem to be clearly adequate. Then one day he came down a bit later than usual. We were all as busy as bees and so genuinely happy in our work. That Russian stood before us taking in the efficient work of men he had seen months before, emaciated wrecks, now well set up, real live workers. It came upon him suddenly—he had a vision—which to him probably meant that tuberculosis was not a hopeless disease and which to me meant that the workshop idea was sure to be a permanent one, constantly growing and with each development more successful.

We made special tests and studies of the most convenient heights and positions for our workbenches and tables. Some patients preferred to work standing up. It helped them and prevented stooping and cramped positions to have the tables breast high. V-shaped saw-boards were fastened to the tables, making a convenient place for working upon which to adjust most any kind of an article. Adjustable stools were made for these tables also, in case a patient grew slightly tired and wished to sit down. Lower tables of the most convenient height were placed for those wishing to work seated, and these were given comfortable chairs. All of our soldering, forging, etc., was done under an especially constructed hood with a draft sufficiently strong to draw off immediately all fumes and smoke harmful to the patients. Special aprons were made for the patients for workshop wear. Each patient had his own locker.

Do not imagine that such work in a sanatorium is all smooth sailing. There were days and days when everything seemed to be at a standstill. There were times when the patients were as ugly as demons for a week or more. One good thing was that they invariably got this streak of devilishness all at the same time. But tools would be deliberately broken or stolen. Sometimes pranks were indulged in which made the instructor the goat. Whole squads would stop working saying that they were not making anything out of it, or that they did not come to the sanatorium to work, that they could go to town and get five dollars a day or more at a "regular job." Times came again and again when I was inclined to believe with my pessimistic friend, the physician who declared that it simply could not be done. But bit by bit the patients took hold of the right idea and this was due entirely to the kindly and wise cooperation and direction of Dr. Harry Cohn, at present acting superintendent of Muirdale, whose unceasing efforts, wonderful influence, and skill with the patients always brought us safely over the rough places.

The size of the daily classes at Muirdale averaged sixty patients, men, women, and children. We found it better to class them according to their inclinations and skill rather than according to their physical conditions. Some of the patients on exercise, such as a watchmaker, wood-carver, designer, etc., did not come down to the shops at all except for materials, but worked in their chairs on the porches. Others were barbers; still others had household tasks to perform. Those skilled in any of the shop handicrafts were never allowed to do housework.

At the opening hour of 9 o'clock each morning the patients appeared before one of their number, as time-keeper, and showed their cards on which were noted the time allotted to each for exercise. Some told fifteen minutes, half an hour, and so on up to four hours. Many of the beginners went directly into the crafts in which they were most interested. Others having no preferences, or the overflow, if too many wished to go into the same department, were assigned to their places by the instructor. Beginners unskilled in any of the crafts were usually put into the repair-shop department. Here they quickly learned to see that, if they could mend a broken chair to look as good as new, the next step was to learn to make an entirely new article by themselves. The most skilled and efficient workers acted as assistant instructors to the supervisor. Classes were arranged in squads in separate rooms. For instance all of the toy-makers were in one room, divided into two squads, in one were to be found the beginners, and in the other the skilled workers who were turning out orders. All the departments were managed in this way. The time-keeper kept them supplied with materials and tools as needed, and went among them to check off each patient as his time was up and to see that he stopped working at once. The supervisor devoted some time every day to each department, teaching when necessary, and seeing to it that things were running smoothly. Each assistant instructor had one or two understudies ready to take his place upon his possible discharge as a cure or arrested case. It is a sad problem to confront, that just when a patient becomes most skillful and valuable to the shop he is ready for discharge. Solve it by having understudies.

Be it here noted that in no case, except in one or two in which the patient deliberately disobeyed orders when the instructor's back was turned, was it found that industrial exercise in the shops had a harmful effect upon the patient, physically or mentally. As the patient improved in condition his time was gradually increased by the doctor. For the most part, the women worked in a separate room, but there were some men who worked better with women around, so in these cases men and women were placed together. We never had any real difficulties as a result of letting the men and women be together. The relations between them were ever wholesome, helpful, and pleasant. Where occasional troubles arose the parties to it had to forfeit workshop privileges.

A word as to the morale of the workshops. At first we had a great deal of trouble about lying and stealing. We found it best not to make such instances moral issues. When we caught men lying we called them into the office for private speech, wherein we told them that we took it for granted that every man working under us was a gentleman and that gentlemen never told lies. This never failed to have a miraculous effect. We put the chronic liars at housework until they saw the light. As for stealing, we maintained that with many of them it had become

just a bad habit because they had never had it brought home to them that they were only harming themselves. The necessity of practicing good habits was essential to successful sanatorium treatment, they were told, and it was understood that those refusing to conform were discharged. Therefore persistent thievery had to be placed in this last class and treated accordingly. This trouble soon stopped almost entirely.

The proceeds from the sale of articles made at the Muirdale Sanitarium workshop goes back into the department fund. All the expenses of this department, except the salary of the instructor, are paid from this fund. The steady gain in quality and quantity of output has been such that it is believed that in time it will be self-supporting.

Giving the patients part of the proceeds of the sales of articles made by them in the shops was found to be an unwise plan. It not only introduced competition, which endangered their physical wellbeing, because as a result the patients overdid, but it caused ill feeling among those not able to do as well as some. We never allowed the sociability of the patients during shop hours to interfere with their work, neither did we forbid it entirely.

We never had any difficulty finding a market for the articles made in the shops. Our sales depended more or less upon the season of the year. In October, for instance, we began to solicit trade for the Christmas season. We were flooded always with orders at this time for hand-wrought jewelry and silverware, baskets of all kinds, hand-carved picture frames, watch-stands, toys, and hand-made Christmas cards. Belated orders kept us busy until the end of January. Then came the season equally filled up with orders for summer articles, such as bird-houses, flower boxes, copper flower bowls, pots and baskets and cedar chests. The late summer months were principally given over to preparation for the annual state fair exhibit in September as well as the making of miscellaneous articles. I have not included needle-crafts for women, because at Muirdale we took the women down to the shops and taught them other handicrafts. With a little direction, however, those wishing to sew or crochet were detailed as instructors to others of like inclinations wishing to learn. Where they wished to sell such articles, we found a market for them. With all the articles made in our shops, we were never overstocked because of no sales for the simple reason that we never turned out a single finished article unless it had been ordered beforehand. Customers were given to understand that we considered no orders whatsoever unless they were given a month ahead, and we never lacked for customers. At present the shops at Muirdale are paying their own expenses for upkeep and are showing goodly and steadily increasing profits.

In closing I should like to mention one or two little things that helped to educate the patients and public and to advertise our idea all over. We used bulletin boards in the shops and pinned thereon all items, clippings, etc., in line with our idea, of possible interest to the patients. They never failed to stop and read every word. This suggests the possibilities of a sanatorium news sheet, the expenses for which might be covered by regular subscription prices, and exchanges made with other sanatoriums. Then again, we never lost an opportunity to exhibit our workshop products to the public, nor did we refuse opportunities to talk to the public about our workshop idea. Women's clubs like to hear about it, medical conventions also. On special holidays we got up plays and entertainments in which the patients took part. For the future, our photography department took pictures of each new growth of our workshop, of each kind of article turned out and of the patients, such pictures as the "before and after treatment" kind in which you may see for yourself the difference in appearance of a patient upon his admittance for treatment, his first day in the shops, and upon the day of his discharge. You might say upon looking at some of these, "Can this be the same person?" and our answer is "Oh! yes, indeed, and see how hardened he looks, really ready to tackle a regular job. That is due to the setting-up exercises received in the workshops."

One Promoter Learns Why

Promoters, for some reason, have marked hospital people down as easy prey. At any rate, most of us are flooded with touching letters offering to take charge of our savings and make us rich beyond the dreams of avarice. The following correspondence, published in the official bulletin of the Chicago Medical Society under the caption, "The Soft Answer That Turneth Away Wrath," will, therefore, be particularly enjoyed by hospital people:

"A stock promoter recently wrote to some of our members, as follows:

" 'Dear Doctor ————:

" '————: Will you do me a favor? I want you to write me a letter and tell me frankly why you have not bought stock in our company. I am very anxious to know what has prevented you from taking advantage of our offer, and I will appreciate it if you will tell me, etc., etc.

" 'Yours for final action."

"This is one of the letters the promoter received. We fancy it was some 'answer' and some 'final.'

" 'Mr. ————:

" 'Dear Sir:

" 'Sure I'll do you a 'favor.' (By the way, you can 'go some.') I haven't bought any of your 'wall paper' for several reasons, among which are:

" '1. The fact that anybody who has any stock to sell that's worth a damn doesn't offer it to doctors—simply because he doesn't have to—and 'capital' rarely lets the 'good things' go out of the family.

" '2. The chances of winning out in the other fellow's promotion game are about 500 to 1 against; therefore, as an investment, a lottery or even craps has you beat a city block. As for the traditional celluloid dog with wax legs chasing the asbestos cat through hell, his job is a sinecure compared with the position of the fellow who backs the average stock promotion scheme.

" '3. Because I was 'vaccinated' years ago, and therefore, am an immune.

" '4. Because, according to the best authorities, the moon is not made of green cheese.

" 'By the way, publish this letter. Most of the 140,000 suckers who are practicing medicine in America (each is a 'prospect' know something of me, and the publication of this might help you to sell your stuff. Mother Eve would have fallen several days sooner if she had had somebody to warn her. Go to it, me laddie buck, and oblige me by saving your stamps by omitting me from your mailing list.

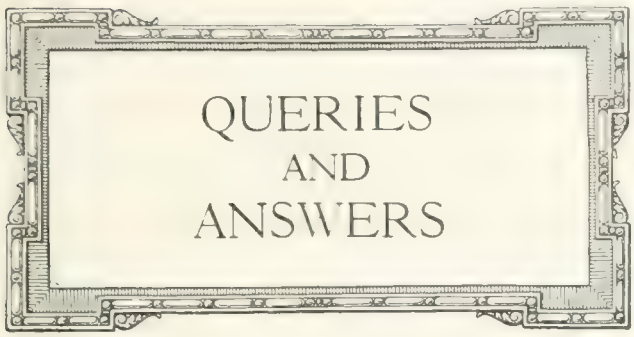
" 'Incidentally, you did 'save' one. When business men ask one to correspond with them relative to their own interests, they usually inclose a stamp for reply. A 2-cent stamp put into your scheme, of course, is a reckless investment. But, then, I am a good sport and have charged mine off to amusements.

" 'Very truly,

" 'G. Frank Lydston.' "

When thou dost purpose aught within thy power,
Be sure thou do it, though it be but small;
Constancy knits the bones and makes us stour.

—Matthew Arnold's Notebook.



The Problem of the Capable Supervisors Whose Methods Are Out of Date

To the Editor of THE MODERN HOSPITAL:

Some time within the next eight or ten months we expect to move out of our present cramped quarters, as you know, and move into the new ———— Hospital buildings. The board of trustees and myself have had on our minds one worry, which I think has caused us more insomnia than all the arguments pro and con of details of building and equipment, and I am going to ask your advice and opinion about it.

It seems as though we could not see light on this our most perplexing problem at all until today, when one of our trustees, whose heart is big and whose purse puts no limit to his good deeds, said to me, "Doctor, we just must find some right way out of this thing. Get the right advice, find out what to do, and I'll pay the bills."

We have with us five supervising nurses who have been in service here with the hospital from four to twelve years. They are good, capable women, devoted to the institution and its interests, and looking forward to the work in the new building with the greatest enthusiasm. Now, some members of our board contend that these women will not be able to meet the new conditions and higher standards which we will have in the new equipment, and propose to replace them with graduates of a college which gives special hospital training, who, it is maintained, will give more prestige to our new undertaking.

Mr. A., the trustee I mentioned, heads the other faction, which says that it would be wrong to change the heads of our departments after their years of faithful service. Suggestions are in order.

CHIEF OF STAFF.

Please tell Mr. A., your trustee, that if in the new hospitals he can combine efficiency with the humanity he displays on this question, we have no doubt of your future success. On the other hand, we realize the necessity of having your supervision in the hands of women who will have the best training for the important work you are going to undertake and to give your doctors and nurses the best school to work in.

Your problem is not a new one. Some reconstructed hospitals have met it by keeping their supervisors and keeping their same old methods which has retarded the work done. Others have replaced their older supervisors with people of more recent advanced education and less experience, and in some cases have been handicapped by too much theory and too little practice.

We know of one place of high standing which met this question in the way described below, and very recent reports from there are enthusiastic concerning the results. They, too, had a good Samaritan who was willing to pay the bills to make it right.

The supervisors in this case were the nurses in charge of the operating rooms, the maternity pavilion, and the dietetic department, an instructor in the training school, and the nurse in charge of the dispensary service. The supervisors were called together by the president of the board and the superintendent for friendly conference, and told in a tactful way something of the situation and asked if they were willing to work and study to meet it. The facts developed then and there that not only were they willing to educate themselves further to meet the new needs, but every one of them was ambitious for further study in her own line of work and prepared to meet at least part of the expense.

Arrangements were then made for the operating room supervisor to spend several months in the surgical department of a large hospital which is especially known for its training of nurses in surgical technic. The instructor of nurses matriculated at an eastern college for special work in training school instruction and management. The maternity supervisor was booked for a certain term in a hospital with a famous specialist on obstetrics. The dietitian went to work for her needed experience side by side with a dietitian of national reputation in hospital work, and the dispensary nurse went for a special course in a big collegiate dispensary and out-patient department.

The leaves of absence were so arranged that only two supervisors were away at one time. When the new buildings were opened they were opened with five supervisors who were new women, loyal to the old traditions, ripe with experience of existing conditions, and alive with reeducation and new plans and ideas for the bigger work to be done.

First-Aid Equipment for Industrial Plant

To the Editor of THE MODERN HOSPITAL:

What equipment should be provided for a first-aid and rest room in an industrial plant employing 175 women and girls at an industry involving no special industrial risks?

SUPERINTENDENT OF A PERFUME FACTORY.

This inquiry was referred to Dr. L. L. Watters, author of the article "Emergency Hospitals for Industrial Plants," which appeared in THE MODERN HOSPITAL in February, 1917. Dr. Watters replies:

"In answer to the inquiry of your correspondent for suggestions for an equipment of a factory employing 175 women and girls, it would seem that no very elaborate equipment be required, and whatever equipment is required should partake somewhat of the nature of a combined treatment and rest room. It is taken for granted that in a plant of this size no permanent physician or nurse is employed, and possibly but one or two moderate-sized rooms would be available. If two rooms are available, then in one room should be installed:

A hospital bed.
A cotton felt mattress.
2 pillows.
1 pair blankets.
1 dozen sheets.
1 dozen pillow cases.
2 bedspreads.
6 dozen towels.
1 chair.
1 bedside table.
1 waste receptacle.
1 invalid reclining chair.
1 pus basin.
1 medicine-dropper.
1 medicine glass.
¼ dozen assorted bowls.
A moderate-sized first-aid outfit, with commonly used medicines.

In the other room, or in the same room if there is only one, there should be:

1 Gardner portable treatment table.
1 revolving stool.
1 white enamel steel chair.
1 glass-top table, size about 18 by 32 inches.
1 waste receptacle.
1 electric light reflector.
1 combination cabinet for medicines and supplies.
1 clothes hanger.
1 carrying stretcher.

1 bowl stand.
1 three-fold screen.
A few simple instruments."

Elaborating somewhat on the foregoing, we rather believe that one large and two small adjoining rooms will work out best. The larger room should be much like a sun parlor and as pleasant and attractive and homelike as you can make it, a complete and direct change from your factory atmosphere. Have your furniture of willow or rattan and cretonne covered and have pictures, growing plants, books, and rugs around. Have plenty of rocking chairs and a few comfortable couches. Off this room should be a bath room with a tub which could be used when a hot bath would be indicated for treatment.

The first of these two smaller rooms should have a wash sink and a waste sink and should be equipped for first aid, having a case containing simple medication for emergency use, hypodermic tray, small oxygen generator, apparatus for eye, ear, nose, and throat treatment, dressings and a few instruments. The lowest shelves of this case should always have present, irrigation apparatus, hot water bags, ice caps, a Kelly pad, and enameled wash basin, dressing and emesis basins.

You will need for other furniture in this room one examining table, three white chairs, an anesthetic stool, two small tables for dressings and instruments, a large three-fold screen, a basin standard, and a waste bucket.

The last of your small rooms may be really like a hospital ward, equipped with at least three hospital beds with good mattresses and plenty of bedding and each having a bedside table of its own. This last room should be shut off from the other two by double doors and be as noise-proof as possible.

A Waiting Room for Visitors Near the Operating Room

To the Editor of THE MODERN HOSPITAL:

Would you think it advisable in constructing a new operating room wing of the hospital to provide for a visitor's waiting room, that is, a place where the relatives and friends of the patients that are being operated on, who insist on coming into the operating rooms, may wait till the patients are taken downstairs, and get the verdict of the operating surgeon as soon as possible?

A SUPERINTENDENT ON THE WEST COAST.

We think that the visitor's waiting room in connection with the operating rooms of a large hospital is certainly a good thing, as it does away with much unpleasantness and annoyance, such as having visitors standing in the halls in the way of workers and peering into places which are intended only for professional eyes to see. If you can plan space enough to add this room to your suite you will certainly find it useful.

Unification of the purchasing systems of 18 Minneapolis hospitals was decided upon at a recent conference of superintendents at St. Barnabas Hospital, that city. Tests of coal, chemicals, drugs, and other supplies to ascertain their quality before purchases are made are to be among the advantages by which the hospitals expect to benefit under the new plan.

The Belvedere Private Sanitarium, a new institution, will be opened in New Orleans in the near future by Dr. B. F. Gallant and others. Construction work on the building which, with its equipment, will represent an expenditure of approximately $100,000, is nearing completion. Dr. Gallant will hold the position of resident physician.

RED CROSS WORK AMONG MENTAL PATIENTS

Patriotic Work Done in the Connecticut Hospital for the Insane—Ambition and Self-Respect Fostered by Opportunity to Help

BY HELEN C. BRAINARD, Occupational Instructress, Connecticut Hospital for the Insane, Middletown, Conn.

Through the Occupational Department of the Connecticut Hospital for the Insane, the services of the patients were offered the Middletown Chapter of the Red Cross Society, and a large amount of work has been completed. The materials have been furnished by the Red Cross Society and brought to the supply room of the occupational department. Here a patient who is extremely interested in the work practically takes charge of it. She keeps all records of the materials received, the work given out and the completed articles that are returned. The materials are distributed about the wards and sent out to the different groups or classes.

As we have no sewing machines in the occupational department the work is limited to hand work—cutting, basting, hemming, and knitting. Before the electric cutting machine was installed in the Red Cross rooms, pajamas, hospital shirts, operating gowns, and other garments were cut and tied up in bundles ready for the society to give out. Innumerable squares of fine gauze have been cut and hemmed for handkerchiefs. Large quantities of towels, abdominal and triangular bandages, sheets, and pillow cases have been cut and hemmed. Many knitted articles, heavy slip-on sweaters, helmets, wristlets, and socks have been made.

The Red Cross work has really opened a new field for occupational therapy. It has been possible to interest a great many patients in work for the Red Cross Society who would do nothing else. Many patients have the idea that in other kinds of work they are helping the state or officials of the hospital, who, they think, are keeping them unjustly, but appreciate that the Red Cross Society is a worthy organization and work for it willingly. Patients who are occupied about the wards, in the kitchen, laundry, and other departments have been anxious to spend their spare moments in doing what they could. Those who were not able to do anything else but were eager to do something, have cut small squares from the scraps left in cutting and tied them in bundles of twenty-five for gun swabs. Some of the patients who have done large amounts of knitting are old women who learned to knit when they were children; others are foreigners, to whom knitting is almost second nature, but a great many have been taught to knit and have accomplished results which would compare favorably with any accomplished by women outside of the hospital.

There is an old Swedish woman who has taken a particular interest in the Red Cross work. She has a daughter who plays some active part in the Red Cross chapter of her town, and the mother is eager not to be outdone. She has knit twenty pairs of socks in about three months. One day this woman handed a pair she had completed to the occupational instructress and said, "Today is the Kaiser's birthday. Please fill these with dynamite and give them to him for a birthday present." She seems to have caught the spirit of the times.

One woman came to the instructress with a little clipping from some magazine. It was a plea for the women of the United States "to do their bit" by knitting warm garments for our fighting men. She offered to knit a sweater if we would give her the yarn, and did make a fine one. With the Red Cross work, the fact that so often

the work is not "prescribed" and is generally followed for its own sake makes it a wholesome interest and of special value in occupational therapy.

We have little flag pins with a red cross on them which are given the patients who do this work, and you may be sure there are many proud and happy to wear this insignia of service. While we are cautioned to bear in mind that the benefit to the patient and not the finished product should be the aim in occupational therapy, still, to them, as grown men and women, the fact that they have really done something of value is a great satisfaction. The interest shown by the nurses, attendants, and other employees in the Red Cross work has also been an added stimulus.

We have recently installed knitting machines, and work is under way with them which we are sure will be of value. With the proper facilities the possibilities of utilizing a class formerly considered dependents is unlimited, besides the work fosters ambition and self-respect and the joy of service in the fact that the patients are participating in the great work which is going on all over the country.

The Contribution of Mount Sinai Hospital, New York, to the National Service

Up to January 10, 75 physicians connected with the Mount Sinai Hospital had been commissioned in the Medical Reserve Corps; these included the following groups:

Attending staff, medical and surgical	17
Out-patient staff	22
Attending specialists	8
Interns	28

In addition, more than 40 members of the Mount Sinai Alumni Association have been commissioned and have been assigned to active duty.

Of the board of trustees of the hospital, one has been commissioned as a major in the quartermaster's department and one a major in the engineers' corps; in addition, two members of the board of trustees are giving full-time service to the American Red Cross.

Sixty-five Mount Sinai nurses, including the associate superintendent and the night superintendent of the training school, comprise the nursing staff of Base Hospital Unit No. 3 (the Mount Sinai Hospital unit), which is now on foreign service.

There are being conducted by the Red Cross chapters classes in home nursing, dietetics, and first aid. Enrollment in these classes consist of good-hearted, earnest lay women who are preparing themselves to be of at least some aid should the emergency arise. Recently we went over some of the examination papers and have selected the following answers as imparting a light upon how the subject has been grasped:

Q. Describe the spine?

A. The spine is a long bone running the entire length of the body and is very dangerous.

Q. Describe how you would prepare a sitz-bath?

A. A sitz-bath is taken in a cup of water and is used to relieve conjestion.

Q. What is hypodermoclysis?

A. It's a chest enema.

Q. What is vermin?

A. An insect usually formed on a cat and is very dangerous to have around the house.—Journal Michigan State Medical Society.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature
Army Medical Museum and Library, Office of the Surgeon-General United States Army.

Indications to Be Followed in the Establishment of Malaria Hospitals. Ann. d'hyg. pub., Paris, 1917, XXVIII, No. 9.

Malaria has increased to such an extent among the soldiers of the armies in Macedonia that a great number of malaria hospitals had to be established. These hospitals have not always been located with a view of preventing the spread of the disease. Malaria hospitals should never be established near breeding places of the anopheles mosquito. The mosquitoes may be carried by the winds from a distance of three or even more kilometers and bite the patients and thus become carriers of the disease. To prevent all possibility of infection it is advisable to provide all doors and windows of malaria hospitals with screens to keep out the mosquitoes.

An American Hospital in London. Science, N. Y., Oct. 26, 1917.

In the presence of Surgeon General Sir G. H. Makins, General Nassiter and Sir A. Keogh, the American ambassador in London opened St. Katherine's Lodge, Regent's Park, as a hospital for American and British officers. The hospital was equipped by Mr. and Mrs. W. Salomon of New York and will be maintained by them for the duration of the war. It is fitted to accommodate orthopedic cases. Two experienced American orthopedic surgeons, Captain Kidder of Detroit and Captain Willard of Philadelphia, are at the head of the institution. The hospital is controlled by the American Red Cross and is the first hospital to be established by this organization.

The World's Northernmost Hospital. The First Hospital in Longyear City, Spitzbergen. C. Smith. Tidsskrift f. d. Norske Laegefor., Kristiania, 1917, XXXVII, No. 25.

For some years past a number of American, English, and Russian companies have worked the coalfields of Spitzbergen island, but until lately there were no hospital facilities, worth mentioning. In the fall of 1916 the American mines were acquired by the Great Northern Spitzbergen Coal Company, which at once undertook to build a hospital. The building, a two-story frame house, was completed in Norway, transported to Spitzbergen, and set up near the mines. It is 10 meters wide and 17 meters long (about 33 by 55 feet), and contains two sick-rooms, a laboratory, an operation room, a room for the nurses, etc., and is provided with a central heating plant and electric light. As the mines are worked summer and winter, the hospital is open all the year around.

The Auxiliary Hospital of Rochefort-en-Yvelines. Jour. de méd. de Bordeaux, 1917-18, LXXXVIII, No. 10.

The beautiful chateau of Rochefort-en-Yvelines near Bordeaux has been turned over by its owners, Mr. and

Mrs. Porgès, to the French army medical service. The donors have also provided a large sum of money for converting the building into a hospital. The chateau is a monumental structure built on the plan of the Palace of the Legion of Honor in Paris. It is located on a hill surrounded by a beautiful park. The hospital contains 130 beds. The spacious rotunda has been converted into a beautiful recreation hall. A number of rooms have been set apart for officers and non-commissioned officers. There are two operation rooms, one for septic, the other for aseptic, cases. On account of abundant electric light operations are performed at night as well as by day. The hospital is managed by the Association of French Ladies.

An Operation Rroom for Operations on the Bones and Joints and for the Extraction of Foreign Bodies. Petit de la Villéon. Bull. et mém. Soc. de chir. de Paris, 1917, XLIII, No. 26.

The author describes an operation room which can be changed into a dark-room for operations under x-rays, or under red light with a lamp of 100-candle power. The operating table is lighted up from below like all tables for operations under x-rays, but in this case the table can be inclined 25 degrees in all directions. The table, covered with a sheet of aluminum, carries three protecting screens for the radiologist, the surgeon, and the anesthetist. The lamp is provided with an easily adjustable diaphragm protecting the hands of the surgeon from the cone of rays. Only the ends of the instruments are exposed to the rays. The instruments used for such operations must be sufficiently long so that the hands may be kept out of the cone of rays.

The Antivenereal Struggle. Organization of Hospital Dispensaries for the Civil Population. Gougerot. Ann. d'hyg. pub., Paris, 1917-18, XXVII, No. 9.

The author, who is at the head of the venereal center of the ninth region, has had great experience in this field. He recommends the establishment of services connected with the hospitals (*services annexes*). He has established eleven such services in his department and has used various systems of consultation: 1. A good system is one by which the venereal service is combined with a general dispensary, as the venereal persons are mixed with the other patients and secrecy is thus assured. 2. The patients are sent to the specialist of the hospital, who treats them with his other patients. Here, too, secrecy is assured. 3. Another system is the special dispensary conducted by a specialist. 4. A traveling venereal service for workingmen may be conducted in small establishments located at a distance from a large center. The author also advises a strict supervision of the so-called clandestine prostitute.

Heliotherapy in the Treatment of War Wounds. N. Cazin. Compt.-rend. Acad. d. sc., Paris, 1917-18, CLXV, No. 26.

The wounded soldiers are exposed to the sunlight on a terrace, in a garden or in the hospital court. The treatment is progressive. On the first day only the feet are exposed for five minutes three times with an interval of half an hour; on the second day the hands and the feet as far as the knee; on the third day all the limbs for fifteen minutes three times with an interval of half an hour; on the fourth day the abdomen is added; on the fifth the whole body is exposed, the head being covered with a white cloth and the eyes protected with yellow eyeglasses. The insolation of the whole body is gradually extended from a quarter of an hour daily to three hours, with interruptions of a quarter of an hour to half an hour as long as the body is not fully pigmented. With this method the author has had great success in treating wounds of the soft parts, many complicated with lesions of the bones. He has cured many cases of stercoraceous fistulas from penetrating wounds of the abdomen. He has also cured, during the last two years, numerous cases of infected fractures of the bones, and all the claims of Dr. Rollier with regard to the general and local effects of the sunbath have been confirmed.

A People's Sanatorium for Patients with Surgical Tuberculosis. C. Dekker. Tuberculose, s'Gravenhage, 1917-18, XIII, No. 3.

The author, having visited Dr. Rollier's heliotherapeutic institute at Leysin, Switzerland, gives a full description of this establishment and then considers the question if the sun treatment can successfully be carried out in low countries. In his opinion places with a low altitude labor under disadvantages because the ultraviolet rays, which have such great curative value, are to a great extent absorbed by the water vapor contained in the air. But in recent years it has been possible to produce an artificial light by the mercury quartz-lamp, which contains a large amount of ultraviolet rays. This made it possible to carry out the light treatment of surgical tuberculosis at low altitudes. But this treatment requires specially constructed sanatoriums. The buildings should be so constructed that the upper floor is set back from the lower one and the rooms of exposure should have glass walls so that they can be heated. Under such conditions it is possible to expose the patient summer and winter to the sunlight. On days in which the sunlight is absent, the patients are exposed to the action of the quartz light. The results of this method of treatment rival those obtained in mountain sanatoriums.

A Military Hosiptal for War Times. G. Marcovigi. Riv. di ingegneria san., Turin, 1917, XIII, Nos. 20-24.

Experiences in past wars, especially in the Crimean and the Civil War in the United States, have shown that the barrack hospital is the true type of military hospitals in war times. Recognizing this fact, the medical department of the Italian army decided to establish a large hospital of this type near the city of Bologna at the very outbreak of hostilities. Five large one-story pavilions and a number of accessory buildings were erected. Each pavilion has the form of a St. Andrew's cross, the four arms meeting at the center, where the accessory rooms, indispensable for the care of the patients, are located. This form was adopted because it was considered superior to all others for performing the hospital service. Each arm, 27.3 meters long and 6 meters wide, with a height of 4 meters (about 90 by 20 feet, and 13 feet high), has room for thirty-two beds and two small rooms of one bed each. The walls of the barracks are formed by reenforced cement pillars (system Marcovigi) the intervals being filled out with hollow tiles. The construction of the roof, covered with tiles, is very simple, the wooden rafters being held together by iron rods. The floor, separated from the ground 0.5 meter (1½ feet) and supported by small brick walls, 1 meter (3 feet) apart, consists of hollow tiles covered by a layer of cement.

Miss Genevieve Masterson has resigned the superintendency of the Ithaca City Hospital, Ithaca, N. Y., and it is announced that she will be married shortly after Easter to Mr. W. D. Clifford, of Syracuse. Miss Masterson has been with the Ithaca hospital two years. Formerly she was connected with the Syracuse Hospital for Women and Children.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

The Frink Linolite Operating Lamp

This new type of illuminator for operating table consists of an octagonal reflector, 6 feet in diameter, surrounding the entire table, so designed that the direct light

Fig. 1. Frink linolite operating lamp.

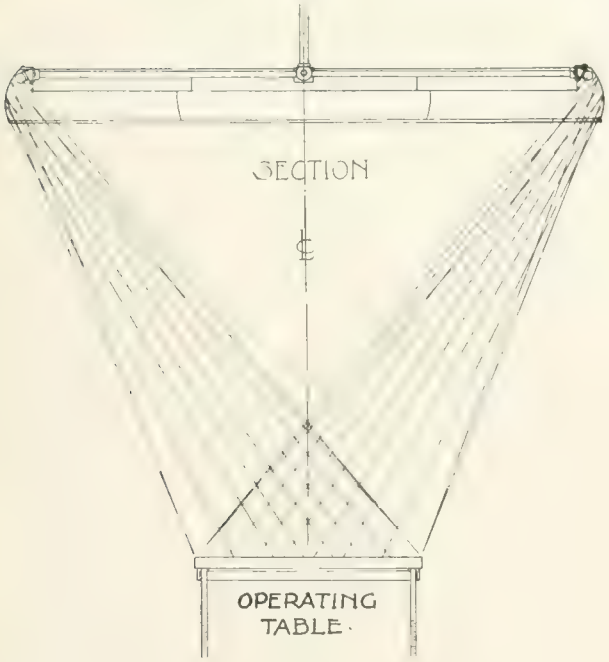


Fig. 2. Shows diffusion of light.

of the lamps and reflected light is confined to the top of the table. (See diagrammatic drawing.) The Frink linolite lamp used with this fixture consists of a glass tube 1 inch in diameter and 11¼ inches long. When placed end to end, the "Frink Linolite" forms a continuous "line of light." The filament being a line source of light, paralleling the angles of reflection, enables one to confine the light to a given area or distribute it with equal intensity over a definite surface.

Each section of the octagon contains two 40-watt linolite lamps, sixteen lamps to the fixture, 640 watts or 480 candle power. It can be readily understood that with this candle power spread out in a line 6 feet in diameter, the obstruction of light from any position must be far less than when the light is focused on the table from several sources.

It is finished in white enamel inside and out, and is wired for alternate control of lamps.

A Portable Sinusoidal Apparatus

A sinusoidal current of the three-phase type in combination with minor waves, all of which are of the sine nature, is produced by this new apparatus.

During recent years the great efficiency of sinusoidal current has attained recognition as a means of treating

Kayess portable sinusoidal apparatus.

diseases. The value of constant current, great as it is, is practically bounded by its ionic and electrolytic effects. To stimulate nerve and muscle tissue, the electric current must be of the undulating and interrupted type, and it is for this purpose that sinusoidal currents are by far better adapted. While it is true that voluntary muscle fibers may be caused to contract with the "make-or-break" of constant current, such contractions are sudden and painful in their nature; the same may be said of abrupt alterations of the induced faradic current. Further, while involuntary muscle fiber, such as that of the stomach, intestines, or bladder, may be made to contract by interrupted, constant, or faradic currents, such current must be so powerful as to cause intolerable pain, and also, in the case of constant currents, polar effects come into play, with the

risk of causing local irritations. It is also well recognized that the contractions of voluntary muscles are more or less sudden in their nature, while those of involuntary muscles partake of a slow worm-like character. The slow, undulating type of current generated by this apparatus makes it eminently suitable for the treatment of visceroptosis and chronic constipation when these conditions are due to want of muscular tone, and it is also frequently of use in restoring tone to the bladder.

It should be remembered that when it is desired to produce muscular contraction, as in the above-mentioned conditions and in exercising the muscles in infantile paralysis and in muscular wasting due to injuries or other causes, the rate of undulation must be as low as possible, while if the object be to stimulate nerve tissue, then the sinusoidal impulses should follow each other at a rapid rate.

The apparatus consists of a small rotary converter producing a three-phase current with minor waves, all of which are of the sine nature. The armature of the rotary revolves between magnetically energized poles, and the conductors upon it cut the lines of magnetic force at various angles, thus causing an electromotive force in each conductor. The current in turn is placed through primary coils, then transformed by three secondary coils to increase the tension of the secondary; the secondary winding may be moved over the primary coils.

Butter-Serving Machine

While I was recently visiting one of the large New York hospitals, my attention was called to a device which I had not heretofore seen in a hospital, and when I asked the guide what sort of a machine it was, I was told that it was a butter-cutter. On making further inquiries as to its usefulness, etc., I was informed that this machine was one of the best investments the institution had ever made in its kitchen department, and that it was effecting a saving for

Sanitary butter cutter and serving machine.

this particular hospital of from 5 to 6 pounds of butter a day. Now, this item alone, without considering the time-saving feature, is, as we all know, no small matter when one considers the present high price of butter. Thus it occurred to me that it might be worth while to bring this machine to the attention of the readers of these columns.

Either print or tub butter may be used in this cutting and serving machine. The mechanism of the cutter is entirely enclosed, excluding dust, and the automatic action of the cutter stops the handling of the butter with the fingers, thus making the device absolutely sanitary. The cutter uses every speck of butter, leaving no broken patties and scraps, and, if tub butter is used, a simple device, which is furnished by the manufacturers, prepares for the cutter in fifteen minutes 60 pounds of butter and will not leave enough in the tub to spread on a slice of bread. The cutter holds 9 pounds of tub or 11 pounds of print butter, which is quickly inserted and cut into square patties. A stack of chips or plates is set under the cutter and a short stroke of the handle forces out and cuts off the patties, dropping them on the plate ready to serve. This is done in a fraction of a second.

The apparatus is heavily insulated and 1 or 2 cents worth of ice will keep the butter at the proper temperature all day. The outfit is 16 by 18 inches square and occupies about the same space as the usual butter bowl. The cutter is an attractive machine, white porcelain inside and out, and it can be easily and quickly cleaned.

The manufacturers claim that an additional and very interesting feature of the machine is the fact that it detects adulteration of butter with water, and affords protection against the purchase of water at butter prices. In one of the large Eastern cities, a butter-dealer was recently fined $200 for selling butter which he had adulterated with one part water to two parts of butter.

Taking into consideration the various good qualities of this device, we believe that it will merit the attention of hospital administrators generally.

X-Ray Reducing Camera

That a roentgenologist will frequently want to make photographic reduction of his x-ray negatives for lantern slides and for presentation to his patients and to the surgeons who send patients to him is naturally to be expected, and so the x-ray reducing camera shown herewith, as recently developed by the Eastman Kodak Company, will come as a great help and will fill a distinct need. With this instrument plate adaptors or kits, as they are called, are provided for holding x-ray plates, 14 by 17 inches, 11 by 14 inches, 10 by 12 inches, 8 by 10 inches, 6½ by 8½ inches, and 5 by 7 inches in size which can be reduced to 5 by 7 inches or 3¼ by 4 inches, the standard lantern-slide size.

The camera can be easily assembled and can be used in a room of ordinary size on the top of an ordinary desk or table. When disassembled for storage purposes it takes up very little space. As shown in the illustration the camera contains a long bellows, at the larger end of which are placed the x-ray negatives, and at the other or smaller end what is in fact, an ordinary lantern-slide camera. An illuminator, as it is called, which is equipped with a 100-watt, 110-volt bowl frosted-tip tungsten lamp, is fitted behind the place for the x-ray negatives at the larger end and is separated from the negatives by an opal glass plate. The entire instrument is mounted on a wooden base, which is built in sections held together by dowel pins which can be easily separated for packing purposes.

The lantern-slide camera has a bellows capacity of 36 inches and can, of course, be used as a separate unit for ordinary lantern-slide and copying purposes, if so desired. Spring finger kits for the lantern-slide camera itself may be provided, so that lantern slides can be made from photographic negatives varying from 5 by 7 inches to 3¼ by 4¼ inches in size. The center compartment is fitted with a lens board which can be removed and placed in front of the camera when the lantern-slide camera only is used for copying purposes. The 3¼ by 4 inch lantern-slide holder

provided with the instrument is adjustable, so that any oblique lines in the negative may be brought into correct position on the lantern slide. Focusing is accomplished by heavy milled heads engaging a rack and pinion with locking device for securing the back in any required position. The movement of the center compartment is also controlled by a milled head with lock nut for holding the center section securely in position. The lens is of the high-grade Kodak anastigmat f. 7. 7 type.

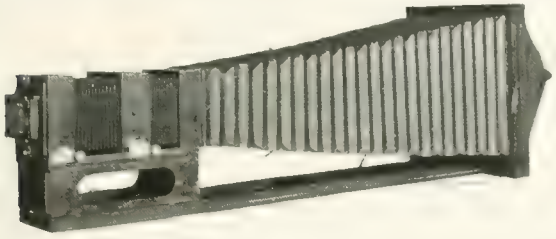


Fig. 1. Reducing camera that permits a roentgenologist to make photographic reproductions of his x-ray negatives for lantern slides.

The x-ray reducing camera is very easy to operate. In fact, all one need do is place the x-ray negative in its place at the large end of the large bellows, plug in the illuminator on the ordinary house-lighting circuit, focus the camera on the ground glass of the plate or lantern-slide holder and then make the exposure. The lantern slides can then be developed in the usual way for lantern-slide plates.

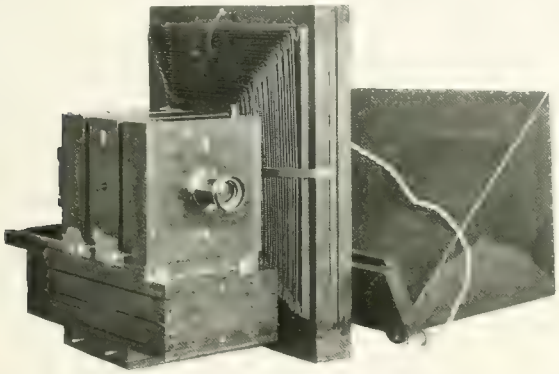


Fig. 2. X-ray reducing camera disassembled.

Electric Motor Chair

The electrically propelled motor chair should find a useful place in many sanatoriums and hospitals. The chair here shown is one which is designed particularly from the viewpoint of ample power with perfect safety and simplicity in operation. One feature of safety with is especially to be commended is that of the control device which is used.

Controlling may be accomplished either by hand or foot with one lever, which is connected with the brake and as the power is turned off, the brake is automatically set. The car is equipped with a guard, which extends in front, and, coming in contact with any obstacle, breaks the circuit between the battery and motor, at the same time applying the brakes. It is apparent that in the hands of the most inexperienced no damage could be caused by confusion on the part of the driver.

The frame of the chair is made of 1½ inch steel channel, all parts being welded. The wheels have pressed steel hubs with ball-bearings and are equipped with 20-inch cushion rubber tires or pneumatic tires, as may be desired. The motor is, of course, of special design of such proportions that it will handle the car with two occupants, supply plenty of power. The storage battery is of the Standard Vehicle type and is supplied in two sizes, 150 or 200 ampere hour capacity. The speed of the car with occupant ranges from 4 to 8 miles per hour. Two head lights, a lock switch and a top complete the equipment.

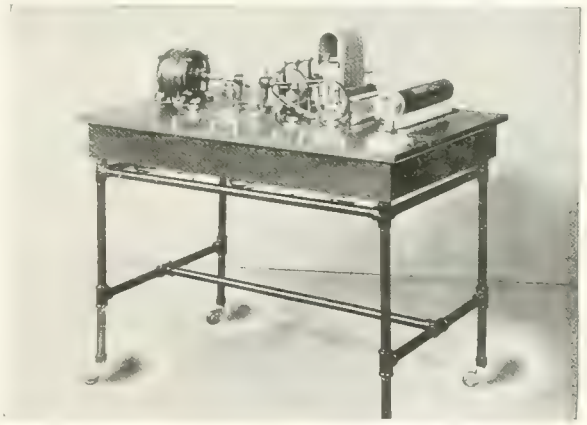
Mills electric motor chair.

A Motor-Operated Therapeutic Machine

The Sanitarium Equipment Company has developed a motor-operated magneto which produces alternating current for medical purposes, including hydro-electric baths and automatic exercise.

The equipment consists of an insulated table on which are mounted the driving motor, the magneto which generates the sinusoidal current, the interrupter, the speed and current controls, and the connection posts.

A motor suitable for the particular current from the lamp socket is supplied. This motor drives the magneto through a leather-insulated friction disc. Speed is regulated and controlled by a handscrew which moves the motor on sliding base rails to change the relative position of the friction disc on the motor shaft to the friction wheel, on the generator or magneto shaft. The nearer the center of the disc to the point of contact of the wheel, the slower the speed of the magneto.



Combination sinusoidal apparatus, showing details of interrupter, current controller, and magneto.

The current generated by the magneto is alternating. It is made and broken by a silent chain drive interrupter which always acts at the same point in the wave in order to make the current painless. By the addition of a rotary converter on the magneto the cycles of the sinusoidal current flow in the same direction, producing its characteristic waves. This current is thoroughly insulated from that supplied to the motor via the lamp socket, and there is complete insulation to prevent the current supplied to the motor reaching the patient.

Surgeon-General Calls on American Red Cross to Supply Army of Nurses

Five thousand more nurses must be recruited for service in the American military hospitals within the next two and one-half months. Surgeon General Gorgas, of the United States army, has called on the American Red Cross to supply this number for the Army Nurse Corps by the first of June. These 5,000 nurses are needed for service in military hospitals both in the United States and abroad. Altogether 35,000 nurses must be enrolled for the Government this year.

Nearly 7,000 nurses already have been supplied by the Red Cross, as a reserve for the Army and Navy Nurse Corps, since the United States became a participant in the war; but as the war progresses the imperative need for a greater army of nurses grows daily.

According to a statement made by Surgeon General Gorgas, it is estimated that there are between 80,000 and 90,000 registered nurses in the United States.

An appeal to the nurses of the country for volunteers to meet the call of the surgeon general of the army has been issued through Miss Jane A. Delano, director of the Bureau of Nursing of the American Red Cross.

The nursing situation in its present aspects is fully set forth by Miss Delano in the following statement:

VOLUNTEER NURSES WANTED

"An earnest appeal is made to the nurses of the country to volunteer for this service. We also appeal to the public and to the physicians employing these nurses to aid in making it possible for them, without too great financial sacrifice on their part, to hold themselves in readiness to respond to the call of their country. It has been brought to the attention of the Red Cross that families and hospitals employing nurses have occasionally hesitated to employ Red Cross nurses lest a change be made necessary by the withdrawal of the Red Cross nurse for the service of her country. This situation is most unfortunate, and any Red Cross nurse definitely selected for service with a unit, awaiting assignment, will, on her own request, be given temporary duty by the Surgeon General in one of our own military hospitals.

"We wish also to bring to the attention of nurses the unusual opportunities offered by the insurance law enacted for the protection of our army and navy. The provisions of this insurance bill apply equally to nurses assigned to duty as members of the Army and Navy Nurse Corps, and make it possible for the nurse to secure, at nominal rates, protection for herself as well as for designated members of her family dependent on her.

"A great responsibility rests on the nurses of the country. They are the only group of women recognized as a part of the military establishment. While thousands and thousands of nurses will be needed, the number is relatively small compared with the number of women in America who should stand back of them and make possible the service for which they are so greatly needed at this time.

MUST PROTECT THE NURSES

"The nurses who share in the hardships, the dangers, and the privations incident to war should be looked on as the representatives of the womanhood of America at the front, and these women who stand ready to sacrifice all, even their lives if necessary, should receive the sympathy, the support, and the interest of the millions of women whose husbands, brothers, and sons are fighting for the safety of the country. Not only should the women of the country encourage nurses who have this blessed opportunity for service to volunteer promptly, but they should make every effort possible to protect the nurses holding themselves ready for service and share with them the responsibility and sacrifices necessary.

"A special appeal is made therefore to the nurses of America to volunteer at once through their nearest local committee on Red Cross Nursing Service, through the director of the Bureau of Nursing in their division, direct to Red Cross headquarters, Washington, D. C., or to the Surgeon General's office, War Department, Washington, D. C."—Red Cross Bulletin, March 18, 1918.

IMPRESSIONS OF A MILITARY HOSPITAL

Courage and Heroism of the Disabled Patients in the Wards

By ELLEN KNIGHT, Toronto, Canada.

One military hospital in Canada is a former residence donated by a millionaire for the treatment of returned soldiers with spinal maladies. The first exclamation of every visitor is "What a beautiful place!" And so it is; a lawn and fine trees surround it; its interior is shining white and gold. There are flourishing conservatories, a Moorish room, and a billiard room specially fitted up for the use of the invalided men. There is a fine chamber organ in a large open hall, upon which a skilled musician gives recitals daily. There are excellent nurses, special electrical treatments, everything, in a word, that wealth and generosity could give has been bestowed upon this place without stint.

But the human misery remains. The most normal-appearing set of inmates are the men who play poker all day long and every day in the Moorish room off one of the conservatories. Yet all of them sit or recline in wheeled chairs or couches.

One of the cheery men of the hospital is a great knitter of socks; he has made seven pairs up to date. He can sit up only in a steel case that takes all the weight of his body off the spine. The very best this man can look forward to is possibly going on crutches in a year or two. He will be maimed for life, as, indeed, will every soldier in this hospital. Yet he has a lame wife and three children.

A well-educated young Welshman—his people are across the ocean—regards you with mournful, dusky eyes. He has shrapnel in the brain for which it is impossible to operate, and as a result he is semiparalyzed and so afflicted with aphasia that his poor mind gropes for words as a child fumbles in the dark.

Probably the finest man is an emaciated wreck, who reels slowly back and forth when he tries to stand and whose paralyzed, useless hands stick out in strange, distorted postures. Yet he is an inveterate, cheery joker, the irrepressible monkey of the hospital. And this despite the fact that he endures horrible suffering.

Poor young Tommy was very pitiful. He had been on his back nineteen months, an unhealed wound, and his face was wan or white like a woman's with brilliant dark eyes. But he used to laugh when one talked to him and he always put his poor thin hands above the bedclothes to clap the daily music as best as he might. He was very sweet, poor young Tommy, now gone to the eternal rest. Before he died he longed to go to his home, and somehow they managed to get him there, but only just in time.

The distractions of the bed-ridden men are diverse and sometimes surprising. Some read, one divides his time between a flute and a typewriter; one embroiders very beautifully and has two prize certificates for his work; one knits sweaters. He has children and earns a little money for them so. Yet the time is difficult to put in.

There is sorrow for those who have died in Flanders, France, Gallipoli that they might achieve great ultimate good for posterity. But what of those that survive who will have to suffer as long as life endures? One can only feel that the new world that comes must prove worthy of such a sacrifice.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. X *May, 1918* No. 5

THE HOTEL DIEU OF BLOIS

An Ancient Monastery Transformed Into a War Hospital—Kindness and Tolerance of the Nursing Sisters—Beautiful Architecture Eight Centuries Old—Problems of a Modern War Hospital Housed Within Monastery Walls

By KATHERINE DE MONCLOS, of the Division of Publicity, Bureau of Tuberculosis, American Red Cross, Paris, France.

DOWN in the garden region of France, in the Loire country, is the quaint historic town of Blois. The old stone houses, some Renaissance, some Norman, the winding, climbing, narrow streets, the superb chateau so gruesomely rich in historic souvenirs, the river Loire spanned by its many bridges—all create a unique and very charming atmosphere.

Down on the river's edge stands a long, low, dignified building with great square windows, once a monastery but now a hospital serving a cause of equal good. It is sheltered by the pointed steeples of the old church of St. Nicholas, around which rooks fly and caw incessantly. The square-paned windows overlook the Loire and the quaint box-bordered alleys of the garden.

The patients who are convalescent and able to come down love to sit here under the shady lime trees or sun themselves seated on the low wall discussing all who pass, whether the fat farmer's wife carrying her baskets of eggs, butter, and chickens to the town market, or the pretty baker's daughter with her heavy load of bread. Only the sisters are spared. When one of their crisp, white head-dresses is seen hurrying by a respectful silence settles on the group, for the patients have learned to love and honor these tireless nurses, who are always jolly, always willing and kind. The most ardent convent-hater of the lot told me if anyone ever slandered the sisters before him again he would tell what they had done for him; that though they knew he had no religion and hated them at first it never made any difference; he was treated just like the others and no one ever tried to talk him over; they left him to his own views, and his own sense of justice had done the rest.

"Tenez," he said, anxious to explain his reasons, "other nurses may be as devoted, as clever, as kind, but they are not the same as ours."

The mother superior of the nursing order of the "Filles de la Sagesse" looked me over keenly with those bright intelligent eyes of hers and, with a kindly smile, handed me over to "Monsieur l'Econome" (the steward), who was to take me through the hospital.

Great vaulted rooms supported by rows of square pillars or rounded columns, on either side successions of large windows suggesting fresh air, light, health, and cleanliness. Green painted walls, shining waxed floors, neat white beds, quiet and order everywhere. In one of the grandest of these rooms I found only empty beds; the blue plaid-lined mattresses looked so clean and neat they seemed to invite one to stop and rest. A little sister hurried toward us: "Monsieur l'Econome, the Americans will occupy this room and I fear it will not please."

"Du calme!" he answered, "Don't worry! that will all be arranged satisfactorily, and the Americans must and shall be pleased."

"So you are a little disturbed at the arrival of our Americans?" I asked.

"Que voulez-vous? We are an old, old institution; we have our habits, and the little sisters are apt to *se noyer dans un verre d'eau* [to get excited over nothing—literally, to drown themselves in a glass of water], but I always say, don't

Fig. 1. View of the city of Blois, with the church of St. Nicholas and the Hotel Dieu in the foreground.

get excited, wait, things generally adjust themselves if one is patient. Only women don't always understand that."

"The more haste the less speed" might well be the motto of this wisest of directors. He led me through a cloistered courtyard, perhaps the oldest part of the building, dating back eight centuries. This beautiful hospital, now called the Hotel Dieu or Hopital mixte (for they receive soldiers, civilians, women, and children) was built under Charles the Bald during the Norman invasion, by the Benedictine monks, and was a superb specimen of the Roman ogival art. The very cellars are like churches, vaulted and supported by columns. Later, during the seventeenth century, France was swept by a craze for Grecian architecture. Wonderful old Gothic monuments were destroyed and others built in their stead. And this was the fate of this glorious monastery. Only such necessary fragments as the cellars were left standing, and the part of the building which had already been incorporated in the fortified city walls. The chapel, which used to be called St. Lomer, and which is now St. Nicholas, was also respected, and is the most beautiful church in Blois. During the Hundred Years' War (one shudders at the knowledge that any war could last so long) the monastery was fortified. The church door and most of the windows were walled up from 1360 to 1650, and when they were once more opened, imagine the astonishment of all to find not only the columns and sculpturing as good as new but all the statues of the saints still standing in their niches in perfect preservation. At the beginning of the revolution the monks were driven out, and, to tell the truth, the order had almost disappeared. The few who remained were wretched creatures only too glad of a pretext to get out and lead their own lives. Then the revolution began. The Chouans and the Vendeans had to be cared for. The monastery being empty, the sick and wounded soldiers were brought there, and so for the first time it became a hospital. But later, when there were no more wounded heroes to be nursed, it was used as a mixed hospital, and so it has remained ever since. While Monsieur l'Econome was telling me all this, we had walked many times from one end of the cloister to the other, but, having unfortunately exhausted his souvenirs, he led me on toward the kitchen.

Again I was impressed by the size of the room and the high vaulted ceiling. Here, as everywhere, all was quiet and orderly and shining with cleanliness. I was shown the great gas range, the third made use of in France. Who would have thought of finding any such modern innovation here? Thanks to this gas stove, they had continued cooking for their patients all during the winter of 1917 when coal was so scarce that many establishments were forced to close. The sisters in their blue dresses and white caps and aprons made a picture as they stood about the range preparing lunch for the four hundred patients and sixty-six nurses and servants.

Fig. 2. One of the great halls where American patients are to be lodged and cared for.

"How much are you allowed to spend for each patient?" I asked my guide.

"Three francs [about sixty cents] a day."

"But, as you are so many living together, I should think that would be enough."

"It is the most difficult problem to solve," answered Monsieur l'Econome, looking very grave. "These three francs must cover not only the food, but the light, heat, washing, linen, surgical instruments, pharmacy, etc., and for repairs alone I ought to have twenty thousand francs [about four thousand dollars]. Also had it not been for the Bureau of Tuberculosis of the American Red Cross, which has so generously supplied us with clothing, food, and instruments, we would indeed have been in a bad plight."

As we left the kitchen with its open windows and shining brass pots, each little sister nodded smilingly at me. How happy, how child-like and simple it must be to lead such a peaceful, useful life!

We went up a great stone stairway with a forged iron balustrade; the sunshine pouring down through the windows did not seem to lighten Monsieur l'Econome's load, for he sighed heavily.

"If only I could put in an elevator!" he said. "Think of carrying wounded and sick people up and down all these stairs, and yet what are we to do? Do you know, Madame, we have no bathrooms? And I would like one for every ward! We have no places to put our contagious cases; the scarlet fever, meningitis, smallpox, and tuberculosis cases must all be so carefully cared for. It makes me very sad and worries me greatly," said the good man, shaking his head as he led me to the operating room, with its rows of surgical instruments and neat piles of dressings.

"Are the Americans going to bring in their own nurses, their own doctors, their own instruments" I asked.

"We don't know how this is to be arranged, but we will do all we can to help and show we appreciate that your country is doing what no other country in the world has ever done before. And now," said Monsieur l'Econome, "I am going to show you what I consider as important as food for the welfare of the Americans who soon will be our patients."

Down a long vaulted corridor, flanked by great Ionic columns imbedded in the wall, which evidently continued to a floor below in former days, as they were cut off in the center, we passed a sort of open-air garret where sheets were airing; "Alas for a hot-air means of drying our linen!" he sighed, and up a few steps to the *lingerie* or

Fig. 3. The kitchen, which (wonder of wonders!) has a gas range, the third one employed in France.

linen room, in some ways the holy of holies of the Frenchwoman's heart.

"I don't know how I could get on without them," he said, pointing toward the group of sisters darning, mending, and putting in patches as only a French sister can. "The most wretchedly thread-bare bit of cloth, the most frayed strip of linen, find their usage up here. The sisters are a never-ending source of wonder, they have the interests of the house at heart as though it were their own home. Why, they even refuse to obey me sometimes when they consider me extravagant and generally suggest a better and a cheaper way!" and he laughed.

The polished floor shone in the sunlight which flooded the room. All about the walls, waxed

Fig. 1. The *tisanerie*, where infusions are made of simple herbs, always an important factor in French nursing.

doorless shelves held piles of neatly wrapped-up linen, and beyond, another room drew from me a cry of admiration.

It too was surrounded by polished shelves, each filled to the top with row upon row of neatly folded linen, but arranged in such a way as to form a series of designs, created by small empty spaces left between the piles, the center space of each motif being filled by a golden red-cheeked apple which perfumed the whole atmosphere of this beautiful tribute to the Frenchwoman's love of order, and her care of all things confided to her, no matter how humble.

I smiled happily as I left, feeling confident the old-world beauty lying within these quiet walls would lend its subtle charm to aid in the greatest mission that has moved the world today—that of winning back, through long hours of darkness and suffering, to perfect health, those boys who, sacrificing all, are still content to count their lives their country's.

HOT DRINKS FOR SOLDIERS

Rolling Canteens to Be Sent Close Behind Our Firing Line —A Helping Hand to the Soldier in His Hour of Need.

The war council of the American Red Cross announces the receipt of the following cable from Paris headquarters under date of March 3:

"At the request of the United States army the American Red Cross has just arranged to install, with all American troops now engaged in actually fighting the Germans, a special front-line service. This is a development of the front-line canteens through which the American Red Cross has, during the past six months, served more than a million French poilus with hot drinks and above all else given a friendly boost right up in or near the trenches themselves.

"Today the Red Cross has fifteen rolling canteens behind the lines. From these canteens are sent forward daily, often in the small hours of the night, fifty or more large receptacles containing hot drinks. These are served free to the men going on or just coming off duty. The work has proved itself to be of such value to the French that the American Army has asked the Red Cross to have this service directly in touch with the medical relief stations nearest the front. The work is often done under heavy shell fire and requires men of great bravery and sympathy. Eugene Hale, brother of Senator Hale, who has just finished six months without vacation with a rolling canteen near Verdun, in which he served thousands of French troops and gained great commendation from French generals who noticed the character of his work, said on returning to Paris today just before leaving for America:

" 'While the men are glad to have hot drinks, their chief satisfaction consists in the sense this service gives them of a friend being there to extend a helping hand and a cheering word at a critical or a tired hour.'

"American army officers are manifesting keen interest in having the service at the disposal of the American troops. The Red Cross plans to enlist in France and in America a substantial number of men of the highest caliber to undertake this wonderful service. It will be performed at the point nearest to the fighting line at which civilians will be permitted to come in any contact with the men."—Red Cross Bulletin.

Experience is the arch-democratizer, emphasizing basic qualities and asserting our common humanity. A man thinks himself exceptional, sacred to himself seem his joys and griefs, only sooner or later to learn with mortification that these are the commonplace of his fellows and his experience but that of the generality of mankind. In one way or another the common fate befalls us all; men avoid it here, circumvent it there, finally imagining themselves altogether exempt. But to every human comes at length the human. Whom want cannot reach nor misfortune approach, sorrow and suffering and age at last subjugate. No privilege avails at the hands of the great leveler, Life.—Stephen Berrien Stanton, "The Hidden Happiness."

THE NEW BUILDING FOR EASTON HOSPITAL, EASTON, PA.

Distinctive Features—Difference Between Ward Plan Adopted and Typical Ward—Separation or Quiet Rooms at Far End—Moderate Estimated Cost of Building—A Detailed Description of the Institution

By WILLIAM S. MICHLER, B.S., Architect, and S. S. GOLDWATER, M.D., Consultant, New York

ABOUT a year ago we were called upon to collaborate in the preparation of plans for a new hospital building to replace the present plant of the Easton Hospital at Easton, Pa.

That the service rendered in the present hospital building is satisfactory to the people of Easton is shown by the fact that the hospital is constantly occupied to its capacity. It has been evident for several years that the hospital requirements of the city of Easton and of the surrounding territory, which together form an important industrial center which is dependent and is on the trolley line. The site covers two city blocks; it extends 1,050 feet from east to west; and 275 feet from north to south; it is expected that ultimately the street dividing the plot will be closed. Notwithstanding this expectation, it has been thought best to place the buildings now to be erected, and also to plan for the later extension of the new hospital plant, entirely within the limits of one of these blocks; the hospital site proper may therefore be said to be 560 feet from east to west, and 275 feet from north to south, sloping toward the northwest.

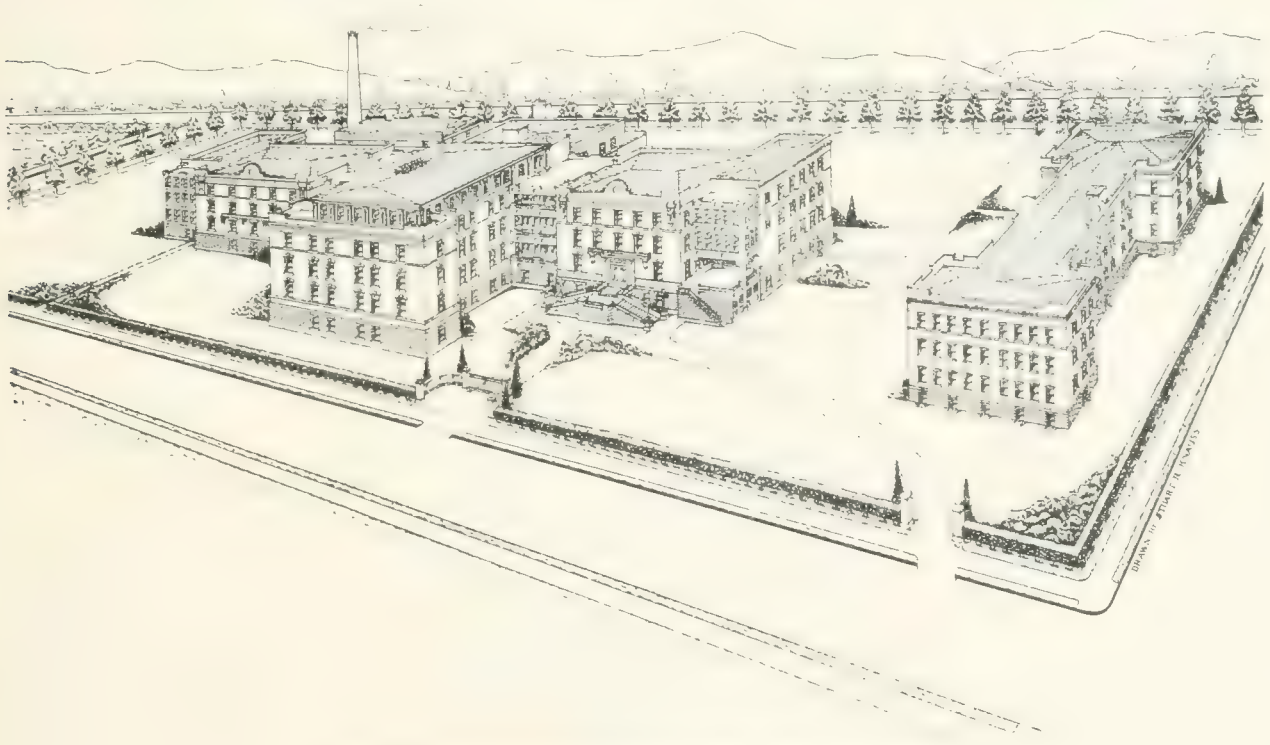


Fig. 1. A bird's eye view of the new Easton Hospital, as planned.

almost entirely on the Easton Hospital for hospital facilities, have far outgrown the capacity of the present plant. The present building has been repeatedly altered and enlarged, and can be developed no further; hence the decision of the board to make a fresh start in a new location.

The site chosen for the new hospital is at the extremity of the industrial community of which Easton forms the center, and is not within the city limits. It is, however, only about one and a half miles from the commercial center of Easton,

The original program called for a hospital having a capacity of 150 beds, divided as follows: male medical and surgical wards, 60 beds; female medical, maternity, surgical, and children's words, 40 beds; private rooms, 30 beds, and private wards, 20 beds. After some preliminary study, it was thought advisable to make a somewhat more liberal provision for the maternity and children's services respectively, and for this purpose we were authorized to add 20 beds to the total, thus allowing 40 beds for the female wards and 20 beds

for the children's wards. The plan therefore is based upon the following program:

Male medical and surgical wards	60 beds
Female medical, surgical, and maternity wards	40 beds
Children's wards	20 beds
Private rooms	30 beds
Private wards	20 beds
Total	170 beds

It is the consensus of opinion of the medical board and building committee that within the present generation Easton will require a hospital of 300 beds, and the subsequent enlargement of the hospital to this capacity has been anticipated in the planning.

The buildings to be provided immediately include a main building, containing kitchen, dining rooms, operating rooms, interns' quarters, servants' rooms, dispensary, laboratory, wards, and private rooms; a nurses' home, and laundry, heating, and power plant.

The main corridor runs from east to west; this corridor is crossed at right angles by the main stem of the building, in which, south of the main corridor, are found the private rooms and wards, and, north of the main corridor, the kitchen, dining rooms, operating rooms, x-ray department, and interns' quarters. West of the central portion is a three-story-and-basement section, containing the male wards in the first, second, and third stories respectively, and the servants' dormitory in the basement; east of the central portion is a unit similar in design, the two upper stories of which are occupied by the female wards, the first floor by offices, admitting department, and pathological laboratory, and the basement by the dispensary, ambulance entrance, emergency ward, and post-mortem room. In the following detailed description of the building, lines of administration will be followed; the domestic service will first be considered.

Although the kitchen is part of the basement floor, it is built wholly above ground, owing to the contour of the plot; it occupies the northern extremity of the center wing and has windows on

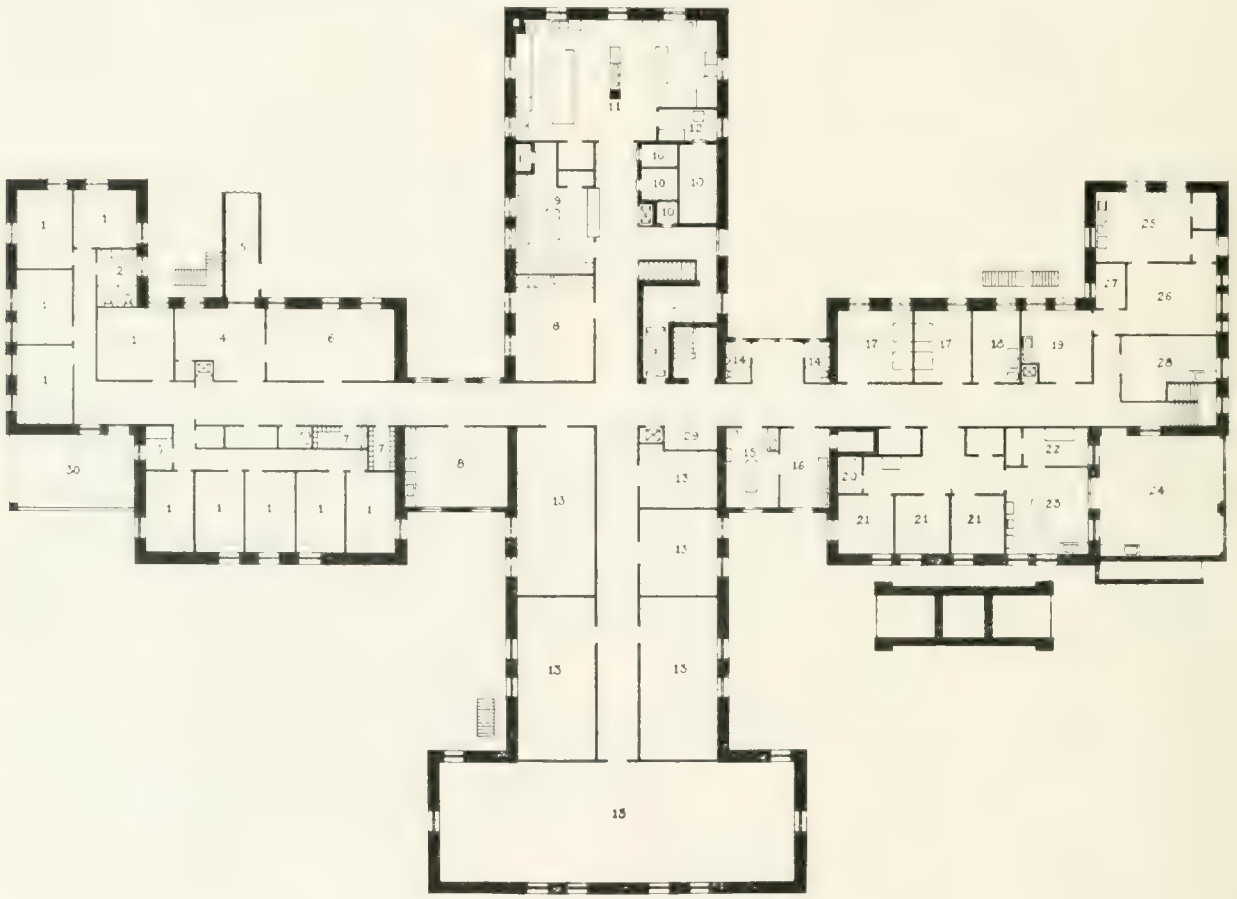


Fig. 2. Basement of the new Easton Hospital.

1. Help's bed room.
2. Help's toilet.
3. Help's bath.
4. Laundry sorting room.
5. Covered passage to laundry.
6. General linen storage.
7. Help's locker room.
8. Help's dining room.
9. Diet kitchen.
10. Refrigerators.
11. Kitchen.
12. Butcher shop.
13. Storage.
14. Toilet.
15. Postmortem room.
16. Undertaker's room.
17. Sterilizing room.
18. Plaster cast room.
19. Examination room.
20. Sink room.
21. Quiet room.
22. Bath room.
23. Admission room, ambulance patients.
24. Ambulance garage.
25. Treatment room, dispensary.
26. Waiting room, dispensary.
27. Eye room, dispensary.
28. Drug room.
29. Food carriage space.
30. Help's porch.

three sides. Adjoining and connected with the main kitchen are the diet kitchen on the one side and on the other the butcher shop and refrigerators. From the service entrance, perishable food supplies are taken directly to the refrigerators. The dining room for female servants occupies the remaining space in this section.

Directly across and to the south of the main corridor, occupying the space under the private wards, are storerooms for kitchen and household supplies, furniture storeroom, trunk room, means of the first-floor corridor, but all of the dining rooms are in close proximity to the kitchen The laundry will occupy a separate building, but the linen sorting room and the central linen room are in the basement of the main building under the male wards. A laundry chute connects directly with the sewing room.

The remainder of this section of the basement has been utilized for bedrooms for the servants, for whom a bathroom, toilet and lavatory facilities have been provided. It is expected that a

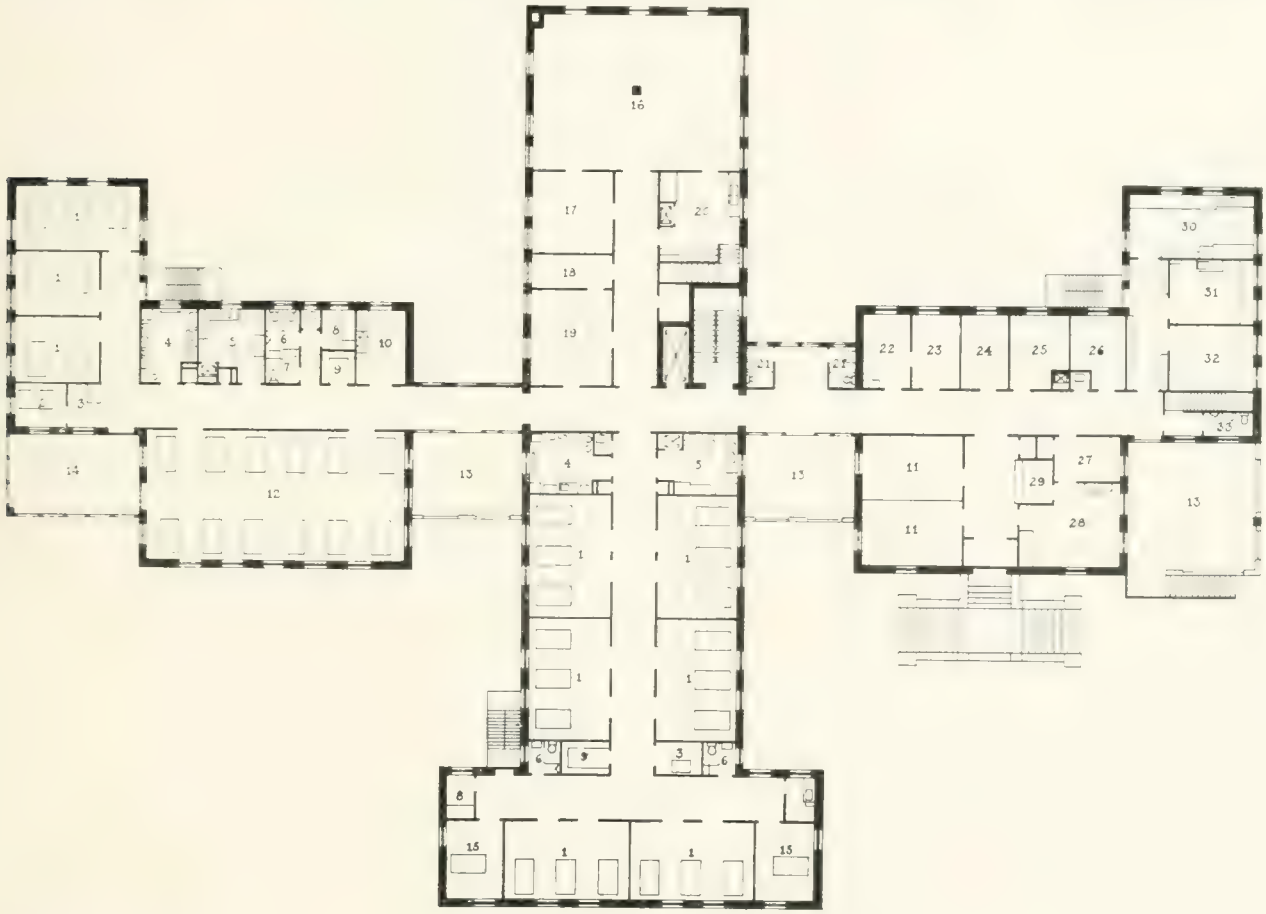


Fig. 3. First floor of the new Easton Hospital.

1. Semiprivate room.
2. Isolating room.
3. Nurse's station.
4. Sink room.
5. Serving room.
6. Toilet.
7. Nurse's toilet.
8. Bath room.
9. Linen room.
10. Surgical dressing room.
11. Waiting room.
12. Ward.
13. Open porch.
14. Inclosed sun porch.
15. Private room.
16. Nurse's dining room.
17. Staff's dining room.
18. Clinical chart room.
19. Doctor's lounging room.
20. Pantry and serving room.
21. Visitor's toilet.
22. Examination room.
23. Consultation room.
24. Surgeon's office.
25. Social service room.
26. Superintending nurse's office.
27. Superintendent's office.
28. General office.
29. Clerk.
30. General pathological work room.
31. Bacteriology.
32. Library and file room.
33. Office toilet.

patients' clothes room, and workshop. Prepared food supplies are taken from the kitchen to the several wards by means of dumb waiters opening on the central corridor.

The dining room for male servants is in the basement diagonally opposite the dining room for female servants. The nurses' and staff dining rooms are on the first floor directly above the kitchen and diet kitchen. The servants, therefore, approach their dining rooms by means of the basement corridor, and nurses and staff by considerable proportion of the servants required in the hospital will be non-resident, as at present, and therefore only 10 bedrooms have been provided for servants in the main building. Locker rooms are provided for non-resident male and female help respectively. Attention is called to the fact that direct light and ventilation are provided for the main basement corridor at two locations.

The principal public entrance to the building is on the southeast front. On one side of the main

hall are two waiting rooms, and on the other the information desk and booth for the information clerk, which adjoins the general office. The latter, in turn, connects with the superintendent's private office. The office is so arranged that visitors can be interviewed before they enter the main corridor. Passing from the entrance hall to the main corridor, one encounters, on the north side of the corridor, the offices of the superintendent of nurses and social service department, an office for visiting surgeons, and a medical consultation room with an adjoining examining room. Visitors' lavoratories are accessible.

It was impossible, owing to the limited amount of space, to provide a lounging room for the visiting staff or a clinical record room in this section; space was found for both of these rooms near by on the corridor approaching the dining rooms. To the right of the administration corridor is a side corridor leading to the pathological and bacteriological laboratories, connected with which are a library and file room. At the end of the corridor is a stairway which connects with the basement, where the dispensary, emergency ward, and garage are located. For dispensary purposes a waiting room and two examining and treatment rooms, together with a plaster cast room, were considered sufficient.

For purposes of economy and convenience, the space beneath the ward porch at the southeast corner of the building has been converted into an ambulance garage and receiving station. Connected with the garage is a receiving room equipped for emergency work, and in the adjoining corridor there are three separation or quiet rooms for delirious and emergency cases. The emergency ward is equipped with a bath, closet for hospital clothing, storage closet, and large closet for splints and bandages. Rooms for the sterilization of patient's clothing and mattresses are located on the north side of the main corridor, directly opposite the emergency or receiving ward. The post-mortem facilities include an undertaker's preparation room and an autopsy room.

Fig. 4. Second floor of the new Easton Hospital.

1. Semiprivate room.
2. Isolating room.
3. Nurse's station.
4. Sink room.
5. Serving room.
6. Toilet.
7. Nurse's toilet.
8. Bath room.
9. Linen room.
10. Surgical dressing room.
11. Visitor's waiting room.
12. Ward.
13. Open porch.
14. Inclosed sun porch.
15. Eye room.
16. X-ray office.
17. X-ray waiting room.
18. Private room.
19. X-ray room.
20. Dark room.
21. Stack room.
22. X-ray operating booth.
23. Dressing booth.
24. Nurse's work room.
25. Dressing sterilizing room.
26. Operating room.
27. Sterilizing room.
28. Surgeon's wash-up sinks.
29. Instrument room.
30. Surgeon's dressing room.
31. Anesthetizing room.

Patients who are to be admitted to the hospital enter either through the main entrance hall on the first floor, passing by way of the consultation and examining rooms to their proper destinations in the hospital, or through the ambulance entrance and emergency ward in the basement.

The patients' elevator and the main stairway, designed for the use of patients and visitors, are centrally located at the crossing of the main corridor running east and west, and of the north-and-south corridor which connects with the operating rooms on one side and with the private patients' operating rooms and x-ray department; to the west, the male ward; to the east, the female wards. The children's ward, a roof structure, is superimposed upon the private wards. The arrangement of children's ward, private-room units, and ward units is such that any unit can be isolated for quarantine or other purposes without disturbing the remainder of the hospital.

The operating rooms, on the second floor, have both north and top light. It is intended to accommodate the surgical patients, as far as possible, on this floor, thus avoiding elevator service.

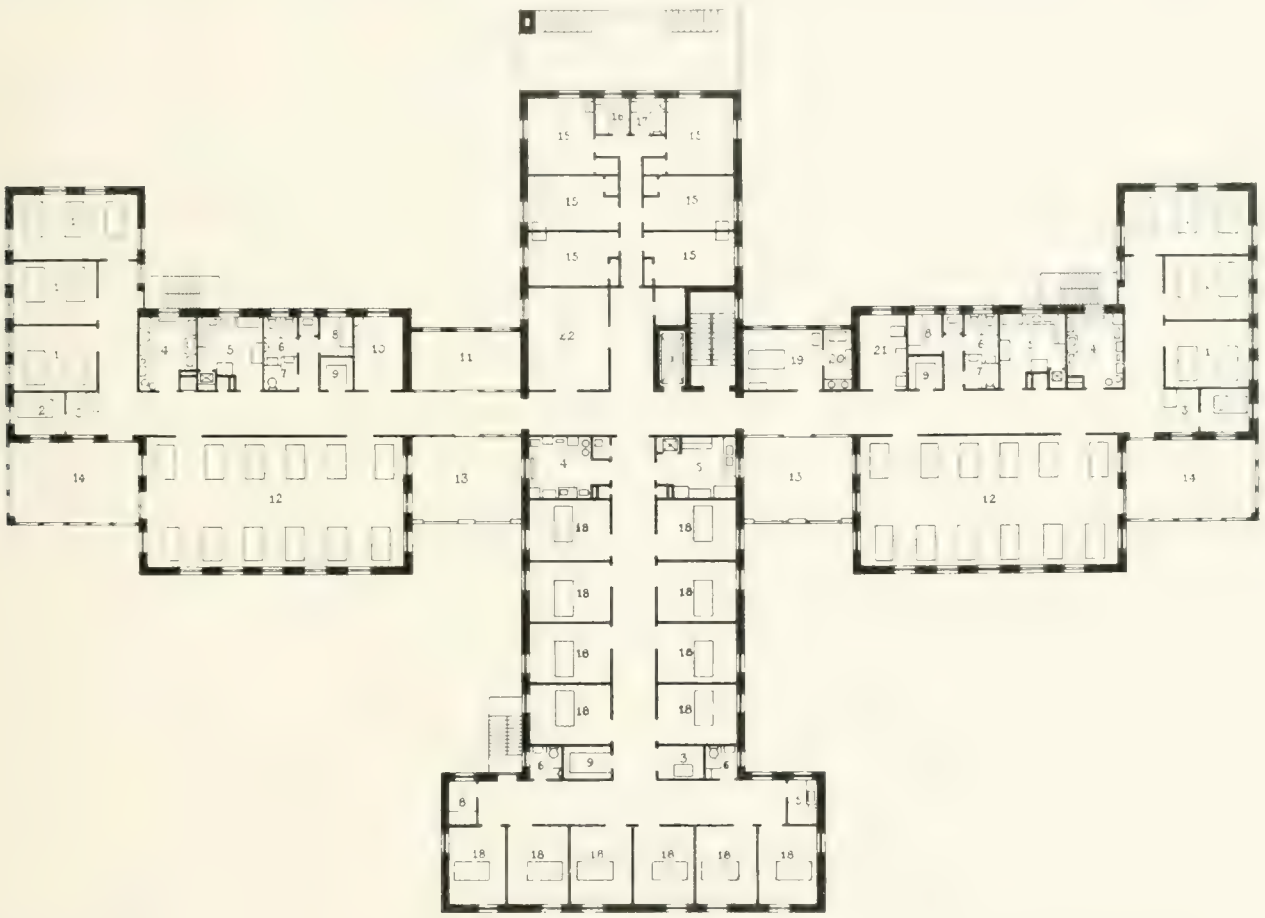


Fig. 5. Third floor of the new Easton Hospital.

1. Semiprivate room.
2. Isolating room.
3. Nurse's station.
4. Sink room.
5. Serving room.
6. Toilet.
7. Nurse's toilet.
8. Bath room.
9. Linen room.
10. Examination room.
11. Visitor's waiting room.
12. Ward.
13. Open porch.
14. Enclosed sun porch.
15. Interns' room.
16. Interns' bath.
17. Interns' toilet.
18. Private room.
19. Delivery room.
20. Wash-up room.
21. Babies' room.
22. Intern's lounging room.

rooms on the other. From elevator or stairway, visitor or patient may proceed in the briefest possible time either to the wards, to a private room, or to the operating rooms. Private patients enter the private corridor without passing through the ward corridor, while ward patients and their friends enter the wards without in any way disturbing the occupants of private rooms.

From the center of the building, where the corridors cross, four wings extend as follows: to the south, rooms for private patients; to the north,

The first floor of the central building has been set aside for the semiprivate patients. The accommodations for this class include four 3-bed wards and two single rooms for patients; sink room, service room, a secondary serving room with gas stove to save time and labor for the nurses, chart room, linen room, bath, and toilet and lavatories for men and women respectively. Attention is called to the central location of the nurses' station and linen room, to the direct lighting and ventilation of the corridor at two points,

and to the extensive use of borrowed light throughout the corridor. The use of two doors in connection with each of the 3-bed wards is due to the intention of ultimately dividing the semiprivate wards into single rooms, without altering the corridor partition.

The arrangement of the two private-room floors above the private ward floor is identical with that of the semiprivate ward, except that, in place of the 3-bed wards, single private rooms are provided. For the use of private patients open porches are available to the right and to the left of the private patients' sections. On the second floor a visitors' waiting room has been placed opposite one of these porches.

The x-ray department is centrally located on the second floor and is accessible from all parts of the hospital. The x-ray suite includes office and exhibition room, waiting room, a machine room connected with stack room, dark room, patients' dressing room, a lead-protected control booth, and patients' toilet. The proximity of the x-ray department to the surgical center will be noted.

The surgical facilities include a larger and a smaller operating room (each, however, large enough to accommodate a portable observation stand for visiting doctors), sterilizing room and wash-up room common to the two operating rooms, sink room, instrument room, doctors' dressing room with lockers, toilet, and shower, anesthesia room, work and supply room, dressing and sterilizing room. A blanket warmer has been built into the corridor.

There are four typical wards in the main hospital building, a fifth ward modified in order to accommodate a maternity service, and a sixth or roof ward for children. The capacity of each typical ward is 20 beds, divided into a 12-bed ward with full exposure to the south, and 8 beds in a side corridor, arranged as a 3-bed ward, two 2-bed wards, and a separation room. The nurses' station has been advisedly placed outside of the ward proper; experience having demonstrated the desirability of such an arrangement; with a nurse outside of the ward itself, direct ventilation of the ward at night, when the patients are under blankets and the nurse is not, is practicable. The main ward of 12 beds has a full southern exposure. The isolation room and the 2-bed wards are placed next, with east or west exposure, and the 3-bed ward, which terminates the unit, is exposed on three sides, east, west, and north.

The service rooms are arranged along the north

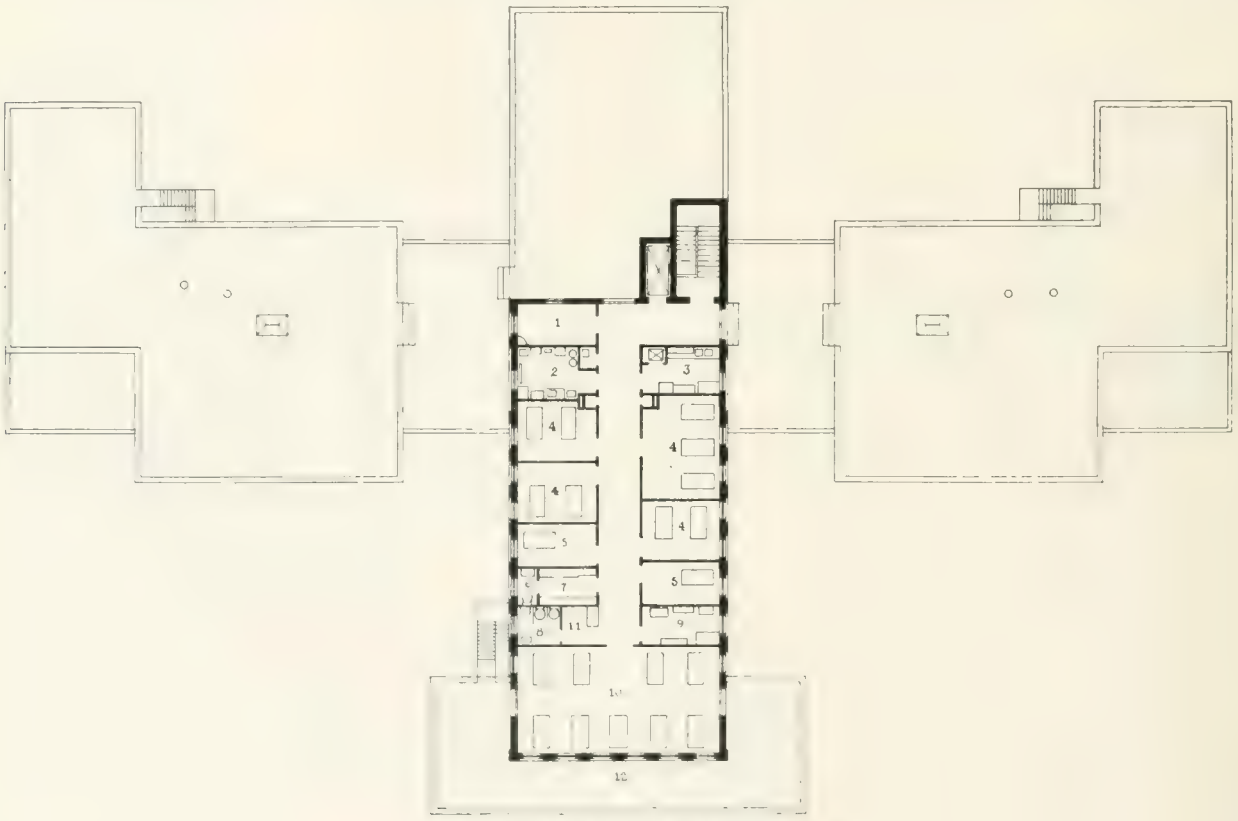


Fig 6. Fourth floor of the new Easton Hospital.

1. Examination room.
2. Sink room.
3. Service room.
4. Semiprivate room.
5. Private room.
6. Nurse's toilet.
7. Linen room.
8. Children's toilet
9. Children's bath.
10. Ward.
11. Nurse's station.
12. Recreation roof.

side of the main corridor, opposite the main ward. In the arrangement of these rooms a definite idea was followed. At the junction of the main and side corridors the sink room was placed, on the theory that the most central location should be assigned to the room which is most frequently used by the nurses serving the wards. Adjoining this is the serving room, and following this the patients' and nurses' toilet, cleaners' closet, bath and linen room; the last room of the series is the dressing room, which is the room least frequently used.

The nurses' station is so located that the head nurse can control all visitors entering the ward corridor. Besides this, by means of the free use of glass in the interior partitions, the nurses will have a fairly satisfactory oversight of every occupied bed in the ward, as well as in the side rooms. In addition, the nurses' station directly overlooks the porch.

The ward corridor is directly lighted and ventilated at two points, and the whole arrangement of the unit is such that direct ventilation is feasible throughout.

For the utility room, standard equipment has been provided; this includes bedpan sink, deep sink with drain-board, gas plate, table, bedpan warmer, specimen closet, utensil sterilizer, instrument sterilizer, lavatory, and two hampers, for soiled linens and soiled dressings respectively. The laundry chute adjoins the utility room.

In the ward servery or kitchen, there will be a dresser, a double sink with drain-board, steam table, gas plate, table and tray rack.

The baths and toilets are in separate compartments, each with an outside window; the broom closets likewise have direct window ventilation.

The ward plan used in this composition departs very radically from the standard I-shaped ward, of which the large or open ward forms the terminal end; in the I-shaped ward, the customary arrangement is to group the separation rooms on one or both sides of the corridor of approach. The ward which we have used at Easton is distinguished by the fact that the separation or quiet rooms are at the far end of the ward, with a side corridor of their own, which is entered by nobody except those who have special business there.

The relation of the porch to the ward is a peculiarly happy one. The porch is located at the junction of the main ward and side wards. Its proximity to both sections, as well as to the nurses' station, and the fact that it does not interfere materially with the sun exposure of any important part of the ward unit are its chief characteristics.

The maternity ward, occupying the third or upper floor of the easterly wing, differs from the typical ward only in the addition of a delivery room, wash room, and nursery.

The children's ward is above the private patients' wing, on the level of the main roof.

The nurses' home is a separate structure, intended to accommodate at the outset ninety nurses, part in single, part in double bedrooms, each with running water. The future enlargement of this building has been anticipated. In the basement of this building, rooms have been provided for the female servants of the hospital. The first floor is devoted largely to teaching and social purposes. The upper floors have spacious sleeping porches.

The laundry and power plant are in a separate building.

The ceiling heights of the main building, center to center, are as follows: basement and first, second, and third stories, 13 feet; roof ward, 11 feet 3 inches.

The cubical content of the main building is 744,000 cubic feet; the content of the nurses' home is 211,000 cubic feet. Estimated at a normal price of 30 cents per cubic foot, this modern, fire-proof, generously planned hospital for 170 patients, would cost $286,500, or $1,685 per bed; this figure includes the cost of the nurses' home, but not the cost of the laundry and power plant, which is estimated at $50,000. If the hospital is built under war conditions, the cost will be much greater.

Good Conservation at a Mississippi Army Camp

An army cantonment at which excellent work is being done in eliminating food waste is that at Camp Shelby, Miss., where the officers have accorded the heartiest cooperation with the food administration. This camp has 30,000 men and 9,000 animals, and its kitchens and garbage cans showed an excellent system for preventing waste. The question of substitute foods was taken up and arrangements made for instruction of camp cooks by the director of home economics of the Mississippi Agricultural College. Pledge cards, home cards, and food administration posters were distributed among the camp cooks, to be placed in kitchens, mess halls, and officers' quarters. This camp has taken up the question of utilizing garbage by feeding hogs, a packing concern of East St. Louis, Ill., installing and operating a hog ranch in cooperation with the Mississippi Agricultural College. It is estimated that 5,000 hogs can be fed at a camp of this size, and that its location at a distance from garbage rendering facilities justifies such use of table waste. The quartermaster is now studying possible ways of utilizing the bones collected in the kitchens.—U. S. Food Administration Bulletin.

There is no good in arguing with the inevitable. The only argument available with an east wind is to put on your overcoat.—Lowell.

STANDARDS FOR A CHILDREN'S HOSPITAL*

Functions of a Children's Hospital—Some Features of Construction—The Administration—Post-Graduate Students—Education of the Public—Importance of the Out-Patient Department—The Pay Dispensary—Need of a Convalescent Home

By STAFFORD McLEAN, M.D., Chief of Clinic and Assistant Attending Physician, Babies' Hospital, New York City.

I AM assuming that the ideal hospital has a capacity of a hundred beds, that it admits children up to the age of ten years, that it is supported by voluntary contributions, that it is used for teaching purposes in a large city, and that it has a good chemical and bacteriologic laboratory, an x-ray department, and an out-patient department. I am also assuming that the staff is chosen on its merits, and that politics, neither municipal nor medical, has any connection with the institution. A hospital has enough to contend with without outside interference. The proper function of such a hospital can be summed up as follows:

1. To afford modern scientific care to sick children.
2. To instruct students in the care of sick children and the proper feeding of infants.
3. To train interns in exact methods of diagnosis and treatment.
4. To conduct problems of research, both scientific and sociological.
5. To train mothers in the care of well infants.
6. To cooperate with practicing physicians in the care of their cases.
7. To train nurses and nursemaids in caring for sick and healthy children.
8. To give members of the medical staff an opportunity of perfecting themselves in their respective specialties, thus making them better teachers.

The hospital should have an intimate connection with a lying-in hospital and an orthopedic hospital. From the obstetrical hospital should come for admission infants, which are not in the realm of the obstetrician but which he frequently keeps in his institution for long periods in order to keep his hand in. In turn, the social workers of the children's hospital should refer women in need of care to the obstetrical hospital. In the last-named a list is kept of the new-born infants, who are followed up by the children's hospital rather than the obstetrical.

In both the children's and the orthopedic hospitals, cases are seen which need both types of care. This is more often noted in the out-patient department and, with close cooperation between the two institutions, the two lines of treatment may go along hand in hand, which is of tremendous advantage to the patient.

I shall not comment on the details of construction of the hospital building, but I desire to emphasize the necessity of balcony or roof space for two-thirds of the cases. A warm room with cubicles and humidity control for at least ten babies is essential. There should be isolating rooms not only for the exanthemata but also the respiratory infections and meningeal conditions. I think the cubicle system should prevail in all the wards, not only for the purpose of limiting infection and preventing cross-infections, but also on account of draughts, which are a real menace to small infants, particularly those seen in hospitals for the care of sick infants.

There should be a room for noisy patients and another near the laboratory for metabolism experiments, which should communicate directly with the laboratory, with double doors, to prevent passage of gases. The laboratory should be provided with a small diet kitchen so that the workers can measure and prepare the food provided for the children in the metabolism ward. The room for the animals should open off the bacteriological laboratory so that the bacteriologists could have entrance thereto without waste of time. Off the room for the animals there should be a small surgery for experimental purposes. The x-ray plant and the lecture room for the students should be on the ground floor; the latter should not have windows opening on the street on account of the noise, when the windows are open in summer. It should have an entrance into the out-patient department. The x-ray plant should be in close proximity to the lecture room as well as the out-patient department, so that the students may have ready access to the plates, and the children from the out-patient department may have exposures made without the necessity of going through the hospital.

The best room in the hospital should not be given up to the trustees, but to the mothers who come to see their sick children. Mothers are averse to putting a child in a hospital and if only for this reason their way should be made smooth,

*This paper is the [illegible] series, by various authors, on the standards of the [illegible] of special hospitals.

at least to the extent of having a pleasant place to sit while waiting to see their children. It might be well to say something at this point regarding a better system for keeping anxious mothers in more intimate touch with their sick children. Of course it would disrupt a hospital if mothers were allowed to visit their children more than once a week, but they will call up on the telephone and they are anxious to learn some details about the progress of the case. The usual answer of the telephone operator which I have heard a thousand times or more in numbers of institutions is, "The child is about the same," which they know and we know means nothing. On the visting card should be printed the hour each day when the parent may communicate by telephone with one of the physicians. The men could have by turn, an hour a day, perhaps in the evening after dinner, when they could give some intelligent answers to anxious parents. In private practice we reply to the queries not only of parents but also of fond relatives, and yet in the hospitals the only two statements along these lines which may be depended upon are, "Your child is in a very serious condition," or, "Your child is ready to be taken home."

The superintendent has a great deal to do with the successful operation of a children's hospital. The duties are many and the man or woman in command has to be equipped with ability, experience, and plenty of tact. I have had intimate experience with conditions of management of eight hospitals and I feel that it is a position which a man should occupy rather than a woman. "Too much Christmas tree and not enough bookkeeping," although there are exceptions to this, and in the country and in young struggling institutions it is often a question of what you can get rather than what you want.

As far as the medical administration is concerned, I believe in one medical chief who has absolute sway. In a hundred-bed hospital I think he should have four assistants, each having the care of twenty-five beds and an all-year service, and four junior assistants to take the place of the assistants during illness or when on vacation. The eight assistants should all work in the out-patient department, the seniors from one to two sessions a week, and the juniors regularly three sessions a week. Both the seniors and the juniors should work on alternate sessions in the consultation dispensary.

The house staff places should be open to both men and women, and only those should be chosen who have had previous experience in a general hospital. A resident is essential. He should become resident only after a definite term of service as intern. He should remain as resident a minimum of one year and a maximum of two, after which he is apt to grow stale. Furthermore, the policy of the hospital should strive toward sending out as many perfectly trained men as possible for the future benefit of the community where they will engage in practice.

The hospital should be open to a limited number of post-graduate students. A hospital with a hundred beds can readily take care of three such students at a time, and none should be taken who are not able to stay three months. In fact, the post-graduate course could be divided into four three-month periods, and the prospective student could sign up for one or more periods. He should divide his time among the wards, the dispensary, and the laboratory, and each of the post-graduate students should be assigned to the immediate direction of one of the junior visiting physicians for instruction and guidance. The visiting physican, while working with the student in the out-patient department, can by intimate contact readily ascertain where the student is weak either in theory or in practice, and with judicious advice as regards reading and instruction can do much to help him. The visiting physician can watch the student's progress and by showing a kindly interest stimulate him to better effort. I have recently taken such an interest in a post-graduate student while working with him in a dispensary. I soon discovered that he was filled with the theoretical side of infant-feeding but had had no opportunity for practice. I limited his activity to the care of infants under six months, all of which were feeding cases, and carefully checked up his work. I made him follow up the cases of this type in the hospital, and within six weeks' time his grasp of the infant feeding problem had become real. During this period he had been attending to lectures and clinics and heard his own cases discussed in the hospital rounds with the hospital director.

The hospital should be an educational center, not only for graduates and undergraduates taking definite courses but also for medical men, local and others who have only a few hours in each month's work to devote to instruction. They are unable to attend society meetings or do not care to, because they have to attend so many to learn anything worth while, but they would attend a monthly or semimonthly clinic in the hospital where the latest ideas in the way of diagnosis and treatment with demonstration of cases could be offered them. If such clinics were arranged, we will say, for the first and third Monday in the late afternoons of each month they would soon become advertised to the general medical public. "Meningitis, with demonstration of cases," "Pneumonia serum treatment and its value in pneumonias of infancy"

are samples of what might be offered to medical men who have but a little time at their disposal.

Courses for young mothers and expectant mothers given by a member of the staff are now offered in many children's hospitals with good result. I was an intern in a hospital in Berlin which gave such courses. We had both pay and free courses, and we took a definite number for a course four times a year. We always had a waiting list for these courses. If there were fewer "baby books" and more of such courses much actual good would be accomplished. Every woman taking such a course becomes a volunteer instructress to many of her friends.

The training of young women to become nursemaids is now a regular feature of many institutions for the care of children, but the field is still open and the demand far exceeds the supply. Young women who ordinarily seek employment in domestic service are trained in the hospital for a year and if they prove satisfactory are given certificates stating their qualifications for the care of young infants. I think that a course of nine months is sufficient, and by thus shortening the term of training many more could be graduated than at present. I feel that the large general hospital which has a good infants' service should also train women for the care of babies.

I have written and spoken a great deal on the importance of the out-patient department, which continues to be neglected in most hospitals, a great many of which are in other respects first-class institutions. A celebrated professor told me recently that he thought the dispensary was one of the best feeders to the hospital. I think that the reverse of this should be the case. The hospital should keep the infant or child long enough to study the condition; the patient should then be transferred to the out-patient department for routine observation. Of course, I do not mean to assume that every type of disease can best be looked after in an out-patient department; there are many exceptions which only a stay in the hospital can benefit, but the infant-feeding wards of every children's hospital are filled with cases with stationary weight curves which would do better at home under careful out-patient supervision. A few days to a week in the hospital in order to determine where the source of error lies and then prompt discharge to the dispensary should be the program in such cases. It takes a man with courage to do this, and, above all, he must have absolute confidence in his dispensary. To have this confidence he must be in constant contact with the dispensary himself or be making rounds with men who are working there.

I believe that the best can be accomplished only when all the visiting physicians with the exception of the chief take their turn in the out-patient department. If the same records were used for the wards and the out-patients, there would be no break in the line of treatment. The man who saw the case in the dispensary could follow up his case in the wards with the records he had made himself in the dispensary; another who saw a case for the first time in the wards could transfer the child to the dispensary and make follow-up notes on the record with which he was familiar when he saw the child in the hospital. Until this scheme is carried out, the best type of treatment for the sick child is not being given. During this season of the year at least 5 percent of the sick children admitted to most children's hospitals have lobar pneumonia. It is generally a pneumonia of the Type 4, for which the specific serum treatment has no distinct advantage. These children do not receive, unless the home suroundings are very bad, any better treatment than they might expect to get at home. If the visiting nurse made frequent visits and kept the dispensary chief in touch with the progress of the case, such cases need not be admitted and many unnecessary hospital days might be avoided. If the nurse saw the child frequently she would be quick to note any change in the condition which might indicate the necessity for removal to the hospital. The same may be said of many other conditions in which the intelligent cooperation of the social service department and the out-patient service will do much to prevent overcrowding of the hospital and at the same time give the best that is possible in the way of medical relief.

With a good laboratory assistant in the clinic, access to the x-ray department, trained workers who do not hurry through their cases, and an intelligent active social service, better work can be done in an out-patient department than in the office of the best private practitioner. With the advances of recent years in the science of medicine, it has become almost impossible for one physician to do all that is possible in the way of making an acurate diagnosis or give all that is possible in the way of treatment, even assuming that the physician is well trained, intelligent, and conscientious.

I note that in most of the large cities today men of the different specialties are getting together in buildings and cooperating to the extent of offering a complete examination for a set fee. In another decade we shall see more of this kind of cooperation, with the obvious result of giving the prospective patient better treatment in less time and for less money. Is the time ripe for the children's dispensary to operate this same method for a set

fee? In a large city like New York I feel confident there is need for such a clinic, and, in spite of the expected opposition of a certain type of practitioner who thinks more of what he calls his rights than he does of his patients, it could be operated successfully.

There are a great many infants in a large city like New York who are being artificially fed with extreme difficulty by men engaged in general practice. Occasionally it is the fault of the infant, but more often because the pactitioner is unfamiliar with the groundwork of infant-feeding. He does not have a consultant because it is too expensive, and he is wont to tell the family that the baby has a weak digestion. Many of these babies die who could be saved by a consultation with a trained pediatrist in a dispensary for three dollars. The case could be seen once with the attending physician and suggestions given him which would not hurt his pride or his purse. There are a great many infants and children in a great city like New York with medical conditions so obscure that delicate bacteriological, optical, and x-ray examinations are necessary before a diagnosis can be established. Frequently the parents of such children are loath to have them admitted to a hospital, but more frequently the practitioner in charge of the case would rather hazard his guess as to diagnosis than have the patient admitted to a hospital with which he is not connected. One visit to the pay dispensary would often solve these problems.

In a large center of population like New York people are constantly moving to the city who have no physician. They are attracted to a certain hospital, we will say, because of its good reputation. They apply to the out-patient department for admission, but are told that if the father of the family earns more than a certain sum per week they cannot be admitted. They are willing to pay for medical services because they have confidence in the hospital, yet they cannot be taken care of. The pay dispensary would solve this problem and many others.

The ablest surgeons in a large city are in constant demand because they have built up a reputation which assures their patients that in their hands they will be cared for with judgment and skill. A hospital over a long period of years has built up a similar reputation. The poor seek it, and they are cared for in the wards and the out-patient department, but those of very moderate means are relegated to the hands of the one-dollar practitioner, who too frequently seems to take it out on the patient, for his small fee, by giving treatment without examination, and trusting to luck and the bottle of medicine for "getting away with it with the family."

I saw a child of eight recently; she had a curious set of nervous symptoms and had been treated by two physicians previously, one by small doses of bromid and the other by subcutaneous injections of what was probably an arsenic preparation. The first physician had made a superficial examination of the child, but the latter, although he had seen her frequently, had neither examined her nor taken a history nor yet examined the blood. A blood smear showed the presence of 11 percent eosinophils, the hemoglobin was 55 percent, and the stool showed the ova of the *Ascaris lumbricoides*. I have not followed this case long enough to know whether the nervous phenomena were the result of the intestinal worms but it is fair to assume it to be the case.

I could mention countless similar mistakes, some of them resulting not so fortunately as the one cited. These mistakes are generally due to carelessness which would not be so frequent if some of these hit-or-miss practitioners had some healthy competition at fees which approximated their own. In the beginning they would resent the pay clinic, but after a few years of contact with the new form of medical activity they would gladly offer their cooperation.

When the public-spirited of a town of a few thousand inhabitants talk of building a much-needed hospital a goodly portion of the physicians resent the innovation because they feel that the hospital will get some of the patients which belong to them. They have to be assured and reassured, and all kinds of restrictions have to be placed about the care of patients in the hospital before they can be won over. The same will happen when the consultation clinic is instituted, but in a large city I believe that such physicians will see the light sooner because they know it will be a success without their cooperation.

For a physician to give his best to the hospital, he must limit his hospital activities to that hospital only and not divide time, interest, and thought among several institutions. There are men who gauge their own success by the number of hospitals with which in the directory they can show affiliation. One hospital is bound to suffer by this arrangement, and as a rule they all do. The physician who pursues this course is probably so prominent that the trustees have not the courage to release him and secure the actual services of a younger man, who, though less eminent, is more useful. Plenty of good young men are kept in forced retirement because the older ones divide most of the good places. This condition is less marked than it was a few years ago, and the

boards of most of the hospitals are now asking their attending staffs to really attend.

I believe in a continuous service, but I think the most can be done for the patients if the visiting physician limits his activity to a twenty-five-bed ward. The visiting physician should be familiar not only with all the very ill patients, but with all there is to know about all the cases—not only what the disease is but about the home conditions and the disposal of the child after discharge from the hospital. He should be in a position to follow up every child on discharge from his ward. If it goes to the dispensary he should see it there; if it goes home he should hear from the social service organization at regular intervals about its progress. If he simply sees a child in the ward with the resident physician he is not doing his full duty, and the sooner the hospital attending physicians realize this, the better will it be for the hospital and the patients.

I recently came in contact with a family of very moderate intelligence who removed a child from a children's hospital after two days' residence there. The child was admitted because of convulsions, and the intern had told the mother that the child was an imbecile. I do not think any of the visiting physicians had seen the child. The family were naturally disturbed by the statement of the young physician and sought the advice of several other men whom they could ill afford to pay. X-ray plates were made at another hospital, and I learned subsequently that after a change in diet the rachitic manifestations improved and the convulsions no longer occurred. Of course, these mistakes will be made from time to time, but they are unnecessary. Had the intern put the child in the hands of a good social service department, the department could have watched the progress of the case, and reassured the parents and their needless alarm might have been avoided.

If every child seen in the out-patient department or in the hospital is followed up to the home we would be conscious of more of our mistakes. It is often impossible after a brief period of observation to make a correct diagnosis especially in mental conditions of infancy, yet we are not justified in keeping the child longer than this brief period. The social service department steps in, and we know perhaps after a year's time that the child is well and entirely normal mentally and many other facts which are worth while knowing.

There are many infants and children in the wards of any first-rate children's hospital who are not sick enough to be kept longer or who have reached a stand-still in convalescence and yet are not in condition to be discharged to their homes and to the care of the out-patient department. They are children who would benefit by a change of air. The convalescent home should be an adjunct of every children's hospital. I do not mean a summer home, but a small home, which, for a hundred-bed hospital, need only have a capacity of ten. There the patients would get actual individual care, more air and more light, and perhaps softer garments than are provided them in some of the institutions in the city. Visitors would be welcomed rather than deterred from coming to the home, and the danger of infection would be minimized by having not more than two children in a room. This convalescent home could be situated in a small suburban community where there are well-to-do people, and should be within twenty-five miles of the city. The medical care would be under one of the local men who had been trained in diseases of children, and the support should be obtained by voluntary contributions from the people in that district. As an offshoot to this home there might be developed in the same community a method of taking care of a few children in private homes among the poorer people, who would be glad to care for an extra child if the financial return were really worth while.

I feel that the model children's hospital will never exist until the dispensary and the wards are on terms of equality, until the same physicians take care of both services, and until the medical work is so divided that the attending physicians have the time to know not only the medical side of the hospital but also the sociological. This can be accomplished only when the social service department is taken seriously by the chief and all the members of the staff and not relegated, as it is in most cases at present, to the sporadic efforts of a well-meaning board of women managers.

Gen. Penn of Camp Custer was passing directly in front of a recruit whose education had not so far progressed that he considered it a breach of military regulations to sit unconcernedly on an empty box and pull at a cigarette while an officer was passing by. He did not "bawl out" the recruit. The general went a few paces ahead and then returned to where the recruit was sitting, and in a tone of friendly interest inquired:

"My boy, do you know you are supposed to stand at attention and salute officers who pass by?"

The boy replied that he did, but hadn't noticed any officers.

"Well," said Gen. Penn, "I am nothing but a mere general, my boy, but one of these days some second lieutenant is going to come along here and reprimand you severely for your lack of observation."—Camp Custer Bulletin.

Dr. Edward M. Green has accepted the post of superintendent at the Pennsylvania State Lunatic Hospital, Harrisburg, Pa.

ANIMAL FOODS, THEIR COMPOSITION AND FUEL VALUE

How to Make Substitutions of Cheaper Forms of Meat in the Ration—How to Utilize Fats and Bones—Composition and Relative Fuel Value of Animal Foods

By JOHN PHILLIPS STREET, Chemist, Agricultural Experiment Station, New Haven, Conn.

ALL animal foods yield chiefly protein and fat; a few yield certain small amounts of carbohydrates, but these are as a rule negligible. The following table gives the analysis of many of the familiar cuts of meat and other animal foods. These have been compiled chiefly from Atwater and Bryant's well-known tables. In these days of food scarcity, when the Food Administration is constantly urging the American people to curtail the amount of beef and pork which they use, the information afforded by this table should be of great value. An inspection of the table at once reveals the fact that in many instance those cuts of meat generally deemed the most choice are by no means the most nutritious, the commonly neglected plate of beef, for instance, yielding more fuel units than any other cut of beef.

MEATS

One of the reasons for the increased cost of beef is that we all want sirloin or porterhouse steaks. These constitute but a small portion of the beef carcass, and, as the demand for these increases, the price of all cuts naturally advances also. In former days it was an experience to hear loud sounds in the kitchen proclaiming that the cook was belaboring a tough steak with a wooden mallet to break its fibers and render it tender. That, however, was before we became a luxurious people. If we as a people would recognize the nutritive value of the cheaper cuts of beef, and would learn how to make these appetizing and digestible by suitable cooking processes, our beef problem would be considerably simplified. Sweetbreads and tongue, both highly prized articles of food, it will be seen, are of relatively low food value compared with other portions of the beef.

Among the cooked beef products boiled and roast beef are the more nutritious because of their greater fat content. Veal products are as a rule less nutritious than corresponding cuts of beef because of their fat deficiency.

We are urged to substitute lamb or mutton or poultry for beef and pork. This substitution in some instances will mean a decreased amount of nutriment in the meat part of the ration, but as a rule this can easily be made up by using other supplementary foods. The nutriment deficiency generally arises from a shortage in fat, but vegetable fats can easily supply this deficiency.

When beef and pork products are used, their relative high content of fat, especially that of pork, raises an important question of food economy, namely, the utilization of animal fats. Beef suet, for instance, contains about 82 percent of fat and yields 755 calories for 100 gm., while fat bacon shows corresponding figures of 67 percent of fat and 646 calories. Much of the fats in these products are tried out in the cooking process and should not be discarded. The way in which fats are utilized in the kitchen is an index of the cook's efficiency. Not only should these all be utilized, but a stock pot also should be an essential part of any kitchen equipment. No green bones should be discarded. These should be rendered in the stock pot for at least twelve hours, and if they are more or less crushed they will yield their substance more readily. During the present war the British army is effecting a saving of $5,000,000 annually simply by utilizing its waste fats, which we with our usual lavishness and extravagance are largely throwing away.

FISH

The various kinds of fish afford excellent substitutes for meat. It is true that as a rule they are very deficient in fat, but in seeking meat substitutes it is protein we are after, not fat, and the average fish contains about the same percentage of protein as meat. With fish as with meat the varieties most in demand are not always the most nutritious. Other things being equal, price is the factor which should determine what kind of fish we shall buy.

The various shellfish supply but a small amount of nutriment, ranging from 49 calories to about double that amount in hard-shell crabs. All of these from a nutritional standpoint are decided luxuries, and their purchase can be justified only by a plethoric purse or a peculiarly favorable price in a local market.

OTHER ANIMAL FOODS

Among the miscellaneous animal foods are found some of our most valuable foods, for instance, eggs, butter, cheese, and milk. These are so well known as scarcely to need further discussion. However, it is important to empha-

size the value of cheese in the diet. Cheddar cheese is a far richer food than any cut of meat, and the waste in it is almost negligible. Many of the fancy cheeses, too, are rich foods, but as a rule their price is no index of their nutritive value. In a former article the value of skim milk as a food was emphasized. This is too important a food to be neglected, and should be extensively used especially for culinary purposes.

COMPOSITION AND FOOD VALUE OF ANIMAL FOODS

Edible Portion Only.

	Protein	Fat	Calories per 100 gm.
Beef, fresh—			
Brisket	15.8	28.5	320
Chuck	19.6	11.9	186
Chuck rib	18.5	19.0	236
Flank	18.9	21.0	265
Loin	18.5	20.0	255
Sirloin	19.7	17.7	238
Steak, porterhouse	21.9	20.4	271
Steak, sirloin	18.9	18.5	242
Neck	21.1	16.5	229
Plate	16.5	29.1	328
Ribs	17.5	26.6	309
Round	20.3	13.6	204
Rump	17.4	25.5	299
Shank	20.4	11.6	186
Shoulder and clod	19.6	11.3	180
Sides	18.1	22.0	270
Forequarter	18.3	18.9	243
Hindquarter	18.3	21.6	268
Heart	16.0	20.4	247
Kidney	16.6	4.8[1]	111
Liver	20.7	4.5[2]	129
Sweetbreads	16.8	12.1	176
Tongue	18.9	9.2	158
Suet	4.7	81.8	755
Beef, cooked—			
Boiled	26.2	34.9	419
Roast	22.3	28.6	347
Round steak	27.6	7.7	171
Sirloin steak	23.9	10.2	187
Tenderloin steak	23.5	20.4	278
Beef, canned—			
Boiled	25.5	22.5	305
Corned	26.3	18.7	274
Dried	39.2	5.4	205
Kidneys, stewed	18.4	5.1[3]	128
Tongue	19.5	23.2	287
Tripe	16.8	8.5	144
Other meats, fresh except where indicated—			
Veal, cutlets	20.3	7.7	151
Veal, loin	19.9	10.8	177
Veal, liver	19.0	5.4	124
Lamb, leg	19.2	16.5	225
Lamb, loin	18.7	28.3	330
Lamb, side	17.6	23.1	278
Lamb, chops, cooked	21.7	29.9	356
Lamb, leg, cooked	19.7	12.7	193
Mutton, leg	19.8	12.4	191
Mutton, loin	16.0	33.1	362
Mutton, shoulder	17.7	19.9	260
Mutton, leg, roasted	25.0	22.6	303
Pork, chuck ribs	17.3	31.1	349
Pork, flank	18.5	22.2	264
Pork, chops	16.6	30.1	337
Pork tenderloin	18.9	13.0	193
Pork feet	15.8	26.3	300
Pork, salt	8.4	67.1	638
Ham, fresh	15.3	28.9	321
Ham, smoked	16.3	38.3	414
Head cheese	19.5	33.8	382
Bacon, lean	15.5	42.6	445
Bacon, medium fat	9.9	67.4	646
Ham, deviled	19.0	34.1	382
Sausage, bologna	18.7	17.6[4]	243
Sausage, frankfort	19.6	18.6[5]	250
Sausage, pork	13.0	44.2[6]	454
Chicken, broilers	21.5	2.5	109
Fowl	19.3	16.3	224
Goose, young	16.3	36.2	391
Turkey	21.1	22.9	291
Fish—			
Bass, sea	19.8	0.5	84
Bluefish	19.4	1.2	88
Butterfish	18.0	11.0	171
Cod	16.5	0.4	70
Cod steaks	18.7	0.5	79
Eels	18.6	9.1	156
Flounder	14.2	0.6	62
Haddock	17.2	0.3	72
Perch, white	19.3	4.0	113
Mackerel	18.7	7.1	139
Pompano	18.8	7.5	143
Red snapper	19.7	1.0	88
Salmon	22.0	12.8	203
Shad	18.8	9.5	161
Shad roe	20.9	3.8[8]	128
Smelt	17.6	1.8	87
Spanish mackerel	21.5	9.4	171
Trout, brook	19.2	2.1	96
Trout, salmon	17.8	10.3	164
Weakfish	17.8	2.4	92
Whitefish	22.9	6.5	150
Cod, salt	25.4	0.3	104
Herring, smoked	36.9	15.8	290
Mackerel, salt	17.3	26.4	307
Salmon, canned	21.8	12.1	196
Sardines, canned	23.0	19.7	269
Caviar, Russian	30.0	19.7[7]	297
Frog's legs	15.5	0.2	64
Clams, long	8.6	1.0[8]	51
Clams, round	6.5	0.4[9]	49
Crabs, hardshell	16.6	2.0[10]	95
Lobster	16.4	1.8[11]	83
Oysters	6.2	1.2[12]	50
Scallops	14.8	0.1[13]	74
Terrapin	21.2	3.5	116
Turtle, green	19.8	0.5	84

[1]Also 0.4 carbohydrates.
[2]Also 1.5 carbohydrates.
[3]Also 2.1 carbohydrates.
[4]Also 0.3 carbohydrates.
[5]Also 1.1 carbohydrates.
[6]Also 2.6 carbohydrates.
[7]Also 7.6 carbohydrates.
[8]Also 2.0 carbohydrates.
[9]Also 4.2 carbohydrates.
[10]Also 1.2 carbohydrates.
[11]Also 0.4 carbohydrates.
[12]Also 3.7 carbohydrates.
[13]Also 3.4 carbohydrates.

Miscellaneous—

	Protein	Fat	Carbohydrates	Calories per 100 gm.
Eggs, hens	13.4	10.5	....	148
Butter	1.0	85.0	....	769
Buttermilk	3.0	0.5	4.8	37
Cheese, cheddar	27.7	36.8	4.1	458
Cheese, cottage	20.9	1.0	4.3	110
Cheese, Neufchatel	18.7	37.4	1.5	327
Cheese, Roquefort	31.5	16.4	2.2	282
Cheese, Swiss	27.6	34.9	1.3	430
Koumiss	2.8	2.1	5.4	52
Cream	2.5	18.5	4.5	195
Milk	3.3	4.0	5.0	69
Milk, skim	3.4	0.3	5.1	37
Whey	1.0	0.3	5.0	25
Cond. milk, sweet	8.3	9.4	53.9	342
Cond. milk, unsweet	7.6	8.7	10.3	154
Gelatin	89.3	....	....	357
Lard		100.0	....	900
Cottolene		100.0	....	900
Oleomargarine	1.2	83.	....	753

THE NURSES' HOME OF THE NORTON MEMORIAL INFIRMARY*

The John N. Norton Memorial Infirmary a Credit to the State of Kentucky—The Nurses' Home the Latest Addition to a Modern Institution.

By ARTHUR LOOMIS and JULIUS HARTMAN, Architects, Louisville, Ky.

THE John N. Norton Memorial Infirmary was founded by Mrs. John N. Norton in memory of her husband, one of the most beloved ministers of the city of Louisville. The erection of the building was begun in 1882, and in 1900 it was found necessary to enlarge it. The institution has grown not only in size but in the affections of the citizens of Louisville, ever since its foundation.

Fig. 1. Nurses' home of the John N. Norton Memorial Infirmary.

Every year, since 1887, a class of nurses has been graduated from the institution, and so successfully has the work of training been carried on under the able superintendent, Miss Alice M. Gaggs, that from the first the Norton Infirmary certificate has proved the passport to constantly sought and valued service, not only in Louisville, but also in the adjacent communities, while not a few holding its diploma have made a name and record to be envied. An insistent demand for a nurses' home, suitable for the residence of refined and intelligent young ladies during their probationary period, was a natural outcome, and has made itself felt for the past ten years. It is therefore a particular satisfaction to those most interested in the welfare of the institution to see the completion of a modern nurses' home where these faithful attendants can enjoy well-earned rest in the intervals of service.

Fig. 2. One of the fifty single bedrooms, in which the nurses enjoy privacy and an opportunity for rest.

The new home is located north of the infirmary building and has a frontage of 30 feet on Third Street and is 145 feet deep. The building has a basement or ground floor and three upper stories.

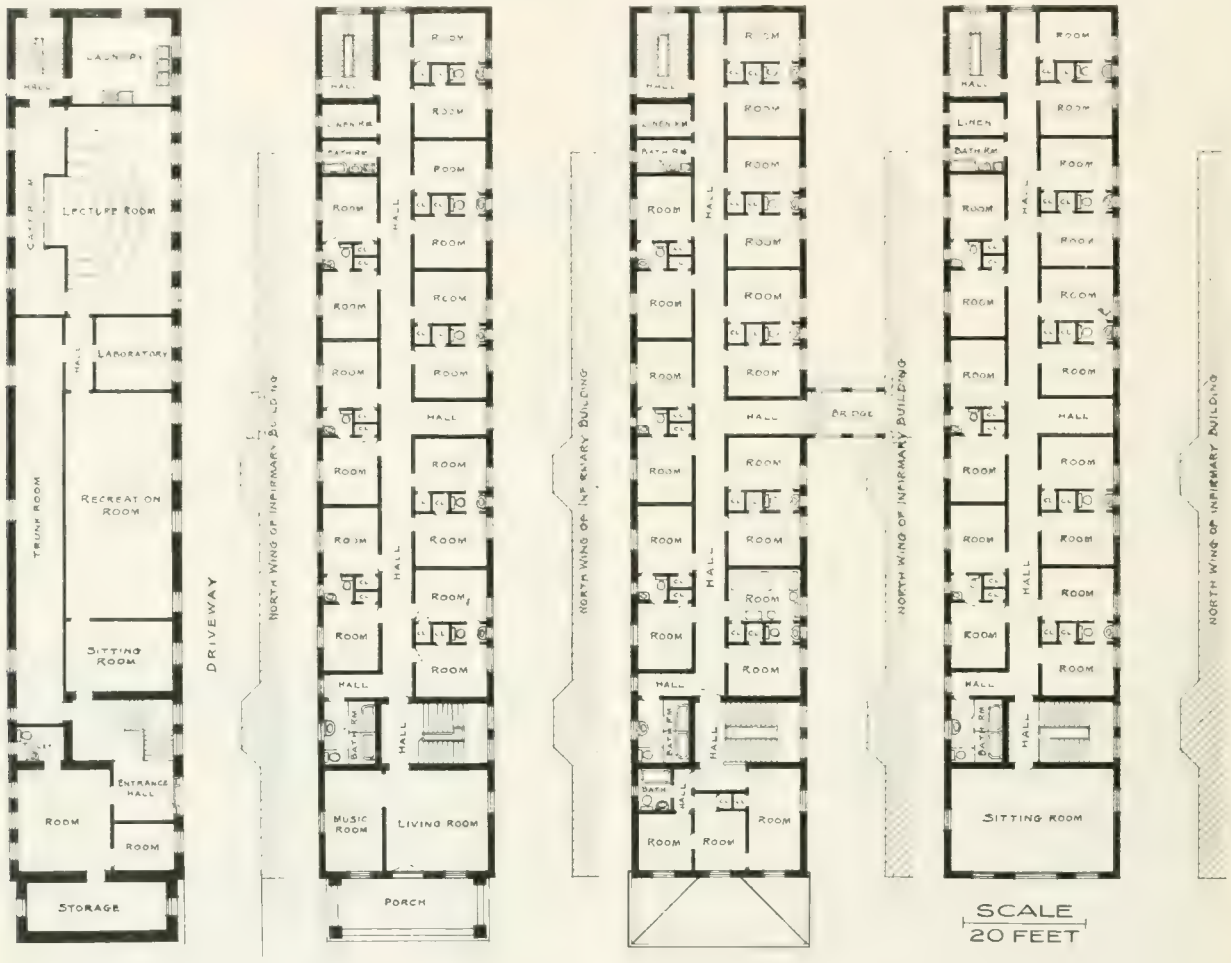
The exterior is of dark red brick with stone trim.

The three upper stories are designed for the nurses' rooms. Each nurse has a separate room, 9 by 12 feet, with a large window, ample sunlight

*This article is the fifth in a series of papers on nurses' homes. The first article, which appeared in January, was by Olof Z. Cervin, and was entitled "Nurses' Homes and Some of Their Requirements." The second, by C. Happersett and Louis H. Rush, was on the "Kistler Memorial Home for Nurses of Lock Haven Hospital," and appeared in February. The third, "New Nurses' Home for Minnequa Hospital, Pueblo, Colo.," by R. W. Corwin, appeared in March. The fourth article, by Miss Harriet Leck, was entitled "The Helen Newberry Nurses' Home" and appeared in March.

and ventilation. Each room has a separate wardrobe closet for personal effects. Between every two adjoining rooms is a toilet room with toilet fixtures and enameled wash stand with hot and cold water, and two wall cabinets for individual use, for toilet articles and linens. Besides these rooms adjoining containing the various appliances used for demonstrating. The laboratory adjoins the lecture room.

There are two stair halls, one at front and one at rear of building from the basement to the top of house enclosed in brick walls.



Ground floor plan. First floor plan. Second floor plan. Third floor plan.

Fig. 3. Floor plans of the home. Note the ample recreation room and lecture room. Every one of the fifty bedrooms is intended for a single occupant.

individual toilet rooms, bathrooms are conveniently located to each cluster of five rooms.

A music room and parlor is located at the front on the main floor and opens out on a large porch, extending across the front of the building, which commands a view of beautiful Third Street.

The superintendent's private rooms are at front on second floor and have separate bath.

The large room at front, third story, is the general living room and library.

The basement is a full story above ground and lighted by large windows. The first room near main entrance is the living room for the use of the graduate nurses and has a cloak room and toilet room attached. Beyond the entrance hall is an enertainment room with cloak room. The lecture room for nurses is in amphitheater shape with

There is a bridge connection between the middle story of the new building and the stair hall of the infirmary building.

The Nebraska Supreme Court has decided that Dr. Robert E. Marble, of Omaha, is entitled to recover $8,500 from the Nicholas Senn Hospital, of that city, on account of personal injuries. The doctor had taken a patient to the hospital for an x-ray examination, according to the evidence presented to the court, and was instructed by the physician in charge of the machine to assist, when Dr. Marble came in contact with the electric current. As a result of the shock he was thrown to the floor, breaking a leg.

The agricultural fair grounds and buildings at Mineola, N. Y., have been taken over by the government and will be converted into a convalescent hospital accommodating 10,000 patients.

HOW A GREAT CLINIC WORKS

Dr. Hornsby Tells of His Experiences at the Mayo Clinic at Rochester, Minn., Where Team-Work Reaches Its Highest Point

By JOHN A. HORNSBY, M.D., Major Medical Reserve Corps, U. S. A.

"PAY clinic," group diagnosis and team-work, both in and outside the hospital, are tremendously important problems at the present moment. One of the greatest clinics in the world and one of the most important centers for group study and group diagnosis is the Mayo Clinic of Rochester, Minn.

In September last, the War Department at Washington intimated that I would probably be called on in the very near future for some pretty strenuous work in connection with the war. Just at the moment I heard this, I was trying to think of some way by which I could secure some information for the readers of The Modern Hospital which would throw some light on these problems of group diagnosis, etc. The situation seemed made to order and I conceived the possibility of having myself looked over most critically in order to determine my fitness for military service, at the same time the opportunity to study the Mayo Clinic to see if there was anything being done there that the medical profession and the hospitals in the country ought to know about that they did not know at this time. I therefore applied to Dr. Charles H. Mayo for permission to enter the Mayo Clinic as a patient, and I told him of my need to know exactly my physical condition. I did not tell him then or at any time up to the moment this is written that I had any other idea in mind except my own physical condition.

I have not consulted Dr. Mayo about my writing this article and Dr. Mayo will learn for the first time when he sees this article, if he sees it at all, that I intended to write anything about my experiences in Rochester.

I arrived in Rochester one Saturday evening in September. On Sunday I was visited at my hotel by "Dr. Charlie," as the people of Rochester affectionately call him, and was given very brief instruction preparatory to my entering the clinic for examination on Monday. There were more than two hundred new patients in the city and at the clinic on Monday. A very cursory examination was made merely preparatory to what I was to be subjected to later on. The net result of this examination was the order that I had on late Monday afternoon. I was told at that time to eat a very light supper, and at 9 o'clock I was to eat fifteen raisins, with specifications as to their quality, and I was to eat nothing else until 7 o'clock Tuesday morning when I was to appear for stomach examination.

On Tuesday morning at 7 o'clock I appeared at the clinic, with many misgivings, perhaps because of a general impression on my part that my stomach was to be emptied and the contents analyzed, and even then I was beginning to suspect that there was not much in my stomach, even the raisins. There were forty of us "stomach patients" and each of us had dished out to him or her six crackers and 6 ounces of sterile water—which I at least ate with a good deal of relish. Some of my fellow patients were not so fortunate, my elbow neighbor telling me that he had been starving to death for ten months and that he would give a thousand dollars to eat one of the crackers which I was disposing of with such evident relish.

After we forty had had our "breakfast," we were all seated in a row along a corridor and just forty-five minutes later the disinterment began; I was first, probably because I had finished my breakfast first, and was escorted to the first seat in the row. From this time on each of us was handled singly. I was led to a small disrobing room where I was required to remove everything from my waist up and was given a sort of Chinese jacket, the washableness and brevity of which I suspected had some connection with what was about to happen to me.

I was then ushered into a small examining room, which contained a number of basins and a great array of immaculately clean but suggestive stomach tubes. The rest of the equipment of the room was two young women also evidently "trimmed" for battle. I had expected that if a stomach tube was to be used, it would probably be handled by a physician, and I must say that I had serious misgivings about the efficiency of the young ladies.

I sat in the examining chair, took a long breath, and made my peace more or less with my Maker, and figuratively put myself in the hands of the two young women.

"Open your mouth," I heard a voice say.

"Swallow," came from somewhere.

I had seen the huge tube coming toward me, but now it was gone—where, I could only suspect because really I had not felt it. I went on breathing and nothing was happening except that outwardly I could see that my breakfast was coming

back into a glass. But, of course, I had not yet begun to have my stomach pumped, and while I was waiting for the worst, one of the terrible ogresses, she who had pointed the weapon at me first, said sweetly, "That's all now, you may go and dress."

I was in the room exactly one and a half minutes.

Some of my unfortunate shipmates of the trip did not go over quite so easily; for instance, the poor fellow who would have given a thousand dollars for one of my biscuits—if he could eat it. It transpired that even a horsehair bougie would not have gone into his stomach.

One patient, it turned out, had had a gastro-enterostomy done some months before and was back merely to be "observed." His "breakfast" had not even stopped in his stomach, but had obeyed the law of seeking its lowest level, and could not be recovered. That was one good breakfast wasted.

My next class was with Dr. Carman in the fluoroscopic room. Again my clothes went off from the waist up, and again the Chinese jacket came into play.

There was nothing parsimonious about the Mayo Clinic. They give you plenty to eat—and sometimes they let you keep it; as, for instance, Dr. Carman's assistant set me down to a delicious dish of oatmeal. I suspected the oat was merely a camouflage, and there might be barium salts or bismuth consealed about its person. At any rate, I had become extremely hungry after the young lady and her stomach tube had done their worst, and I was prepared to dispute the possession of the oatmeal breakfast with al comers. But Dr. Carman is a good feeder himself and evidently enjoyed a good breakfast, and even enjoyed the sight of one, because he stood me up between two frames and looked at my breakfast through the fluoroscope. He looked at it a long time, turned me this way and that and the other—every way except upside down. I would not have stood for that. Evidently the use to which I was putting that breakfast pleased him, and he must have assured himself that it was not being wasted, even in this day of conservation, because he gave me a big white mug of what might have been milk to drink, and told me to drink it all, but to drink it slowly—and he watched it go down. I was almost sure that he was going to take it away from me because it was really good and was filling a long-felt want, but instead of taking it away from me, he gave me another just like it, which was satisfying even to the point of repletion. Then someone handed me, although it was totally dark in the room, another mug full of something. Dr. Carman called it "brown mug." I was to drink all of that too, slowly. I wondered for how long I was to indulge Dr. Carman in his enjoyment of my scenery, and then I began to wonder too whether he was determining how much I could hold without bursting. After the fourth mug, I lost the count, but I didn't lose any of the contents of the mugs, which seemed to surprise Dr. Carman, because he then sent me into another room to have some pictures taken evidently for the purpose of determining if there was any leakage in my plumbing. Evidently everything held, at least Dr. Carman told me he had found nothing and told me to come back the next morning. I suspected he was going to try gas under pressure or maybe attach me to the street fire plug, but he didn't.

In a corridor of a clinic on the afternoon of my third day, I ran across "Dr. Will," Mayo, who was surprised that I was sick. I explained to him that I was getting better rapidly and thought I would soon be a well man if I could have more of Dr. Carman and less of the young ladies in the pump room. I told Dr. Will that I had skipped a couple of the classes on my travels through his institution. But that was not to be. It seems that after you get started in the Mayo Clinic it is like going through a maze at the circus; there is a lot of it that you do not understand and cannot see, but you have to take it all before you come out at the other end where the fat lady and the tatooed man are.

Seriously, Dr. Will insisted that I was to be examined, I was not to be half examined and that when I left Rochester they were going to know whether I possessed a soul or not and they would be able to give me all the physical characteristics of what mind I had.

I went through the other classes, including complete blood examination, and a series of tests by the assistants of Dr. Wilson in the pathological department. Then I passed along to the specialists, those who look over thyroids, parathyroids, and those who look after the ductless glands. In all I had the services of exactly seventeen different specialists.

By Friday afternoon there had accumulated about me enough data to fill a good size quarto volume—and then I was told as a summary of the findings that all that ailed me was a superfluity of carbohydrates stored in my tissues and the treatment prescribed, which I was strongly advised to adhere to strictly, was, "Go home and get to work."

I went home without having said one word to anybody in Rochester about my ulterior motive.

I have attempted in my artless and clumsy way

to tell the story of my visit to both the Mayos, with a slice of attempted humor here and there. With me the visit was a most pleasant one. I saw a lot of fine surgery in between "meals" and "classes." I saw many of my friends in the medical profession who had come from the various parts of the country to "brush up," and I enjoyed it all hugely.

But never for a moment did I forget the other side. There were those there who had been passed from family practitioner to specialist, from one specialist to another, each one doing a certain amount of entirely detached and independent work along the lines of diagnosis, and each one with a dozen or more incomplete or unwritten histories of the great tragedy of illness. My poor friend of the pump room who envied me my breakfast had his turn with Dr. Carman and I saw him later taking his train for home to prepare himself as best he could for the inevitable results of a carcinoma of the esophagus. But he went away knowing what he had—which he had not known before.

Dr. Carman showed me through the fluoroscope a man who had a hernia with protrusion of a considerable part of the stomach through the diaphragm and up into the pleura with its contents.

I do not consider that either of the Mayos or any of their assistants are miracle workers; no one claims that they are, but I do find something in the Mayo Clinic that I think I can say safely after visits to nearly every other clinic in this country and some abroad, that the facilities for diagnosis and the cooperation between the specialists there give a better chance for correct diagnosis than at any other place on the earth that I know about.

I have known for years that it was the policy of the Mayo Clinic to keep a keen lookout all over the scientific world for specialists, and wherever one poked his or her head up above the mass of workers, to get that one and make him or her a part of the "team."

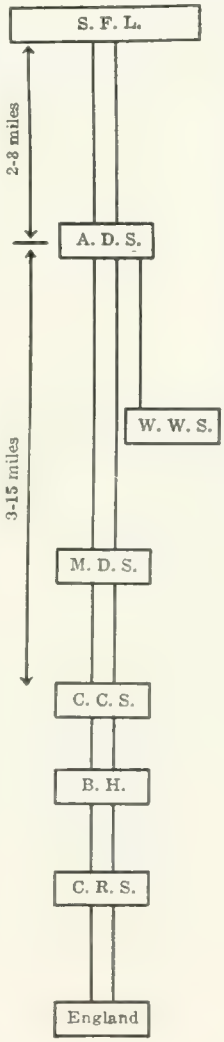
Some day perhaps I shall publish for the readers of THE MODERN HOSPITAL a complete history of my own case in the clinic.

If this story is to be ready merely through curiosity, and forgotten, or if my alleged humor is to be criticized, or even let us secretly hope, enjoyed, then I have wasted my time and have wasted your time and have wasted space in THE MODERN HOSPITAL.

If, on the other hand, this story has contained a hint here and there of what a real clinic can and should be, and if I have possibly stimulated a spirit of emulation among the profession or among the hospitals, I shall be greatly satisfied.

I beg to apalogize for the story to "Dr. Will" and "Dr. Charlie" and their associates. I have not meant to subject them to offensive publicity; I have meant only to present in my very poor way something that is being done, something that I think ought to be done everywhere, and I am sure they will appreciate the genuineness of my intentions and will not mind having been used as a vehicle by which I hope that the sick of this country and eventually the sick of every country will profit.

Itinerary of the Wounded from the Trenches to Blighty



An excellent outline of the route taken by the wounded from the front line to England is given by Lieutenant William J. Miehe, M. R. C., in a letter published in a recent number of the *Journal of the Missouri State Medical Association*. From the trenches, he says, the wounded are taken or carried to the advanced dressing station, or walking wounded station, then by motor ambulance to the main dressing station, and so on by train, canal boat, or machines to the casualty clearing station, the base hospital, and the corps rest station, whence the severe cases and those requiring long attention are taken to England. All the good surgery, Dr. Miehe remarks, is done at the casualty clearing station, and most of the base hospital surgery consists of reamputations, opening pus pockets, etc.

S. F. L., section of front line (trench) usually held by a regiment; when a man is wounded, his pal or neighbor puts on the first aid dressing here. A. D. S., advance dressing station, where wounds are dressed (mostly stretcher cases). W. W. S., walking wounded station, where the walking wounded are taken care of by such means as redressing, hot drinks, cakes, biscuits, and cigarettes. M. D. S., main dressing station, where the men receive clean, dry clothes, hot foods, etc., and where splints are reapplied, and minor operations are done, etc. C. C. S., casualty clearing station, where the wounded are operated upon. B. H., base hospital, where reoperation is done and patients held whose cases are so slight that the men might go back to their units in a few weeks. C. R. S., corps rest station, where patients are held any length of time that might get them back to their units without going to England, where most of the severe cases are taken and cases requiring long attention, such as gas cases, paraplegia, hemiplegia, compound fractures, amputations, blindness, fractured skulls, etc.

A gift of $50,000 has been offered to the city of Whittier, Cal., by Mr. and Mrs. William Milhous, for the erection and equipment of a first-class hospital. This gift is offered with the proviso that the proposed hospital association pay interest on the money at the rate of seven percent during the lifetime of Mr. Milhous and wife. At their death, the entire sum will become the property of the hospital association.

CRAGMOR SANATORIUM, COLORADO SPRINGS

A Tuberculosis Sanatorium Within Sight of Pike's Peak—Individual and Porch Plan Throughout—Beauty of Surroundings Combined With Homelike Interior Arrangements

By IRENE MORTON, R.N., Cragmor Sanatorium, Colorado Springs, Colo.

CRAGMOR is situated on a tract of 100 acres, 3 miles northeast of Colorado Springs. With an elevation of about 300 feet above the city, the site of the institution is ideal. The buildings face the southeast, and in the clear Colorado air the eye travels over the rolling prairie to the Twin Peaks of the Spanish Range 120 miles south. To the west, looking over the valley, where nestles the city, rises the Great Rampant Range of the Rockies, with snow-capped Pike's Peak towering 8000 feet above the city. At the back of the sanatorium, a bluff extends east and west, effectually protecting the buildings from the north winds.

Fig. 1. View of snow-capped Pike's Peak from the roof garden of Cragmor Sanatorium.

Covered with a growth of pines and ground oaks, this bluff forms a picturesque background for the buildings. The entire tract is underlaid with a deep bed of gravel, and a thick growth of prairie grass binds the surface sufficiently to prevent dust storms. Without being remote or inaccessible, Cragmor is far enough from the city to be free from all distractions.

The erection of the new building in 1914 at a cost of $100,000, with all modern equipment, doubled the capacity of the institution. This building is of stone and stucco construction along graceful Spanish lines and consists of four separate units. The center, of two stories, contains the dining rooms, store room, linen and sewing room. The north wing, of three stories, contains on the first floor, the power plant; on the second, the kitchen and cold storage; and, on the third, the servants' quarters. The east and west wings, each three stories, contain on the first floor administrative and medical offices, as well as the throat room, reception hall and entrance. The floors above contain the patients' suites. The entire building is covered by a series of roof gardens from which the view is wonderful.

The design and arrangement of patients' apartments has proved ideal. Every room is an outside one and has a corner sleeping porch, open on two sides, thus affording perfect ventilation and unobstructed view to the south and east, or west. The building is so arranged that these porches do not overlook each other. They are large enough to permit a bed to be placed in any position, giving the patient a variety of possible views. There are adjustable lights, call bells and curtains which are manipulated from the bed. In addition to the porch, which is of room size, each patient has a

Fig. 2. The new main building, Cragmor Sanatorium, containing the administrative and medical offices, etc. The photograph was taken before the completion of the building.

connecting room with one or more large outside windows. The connecting doors are sufficiently large to allow the bed to be wheeled in and out. All rooms are heated from the central plant. Some have open fireplaces, and the majority are connected with private baths. The furniture is handsome and tasteful but simple. The doors are without panels and all corners are rounded. The lighting is of the semi-indirect type. The beds are single, with large rubber-tired rollers and

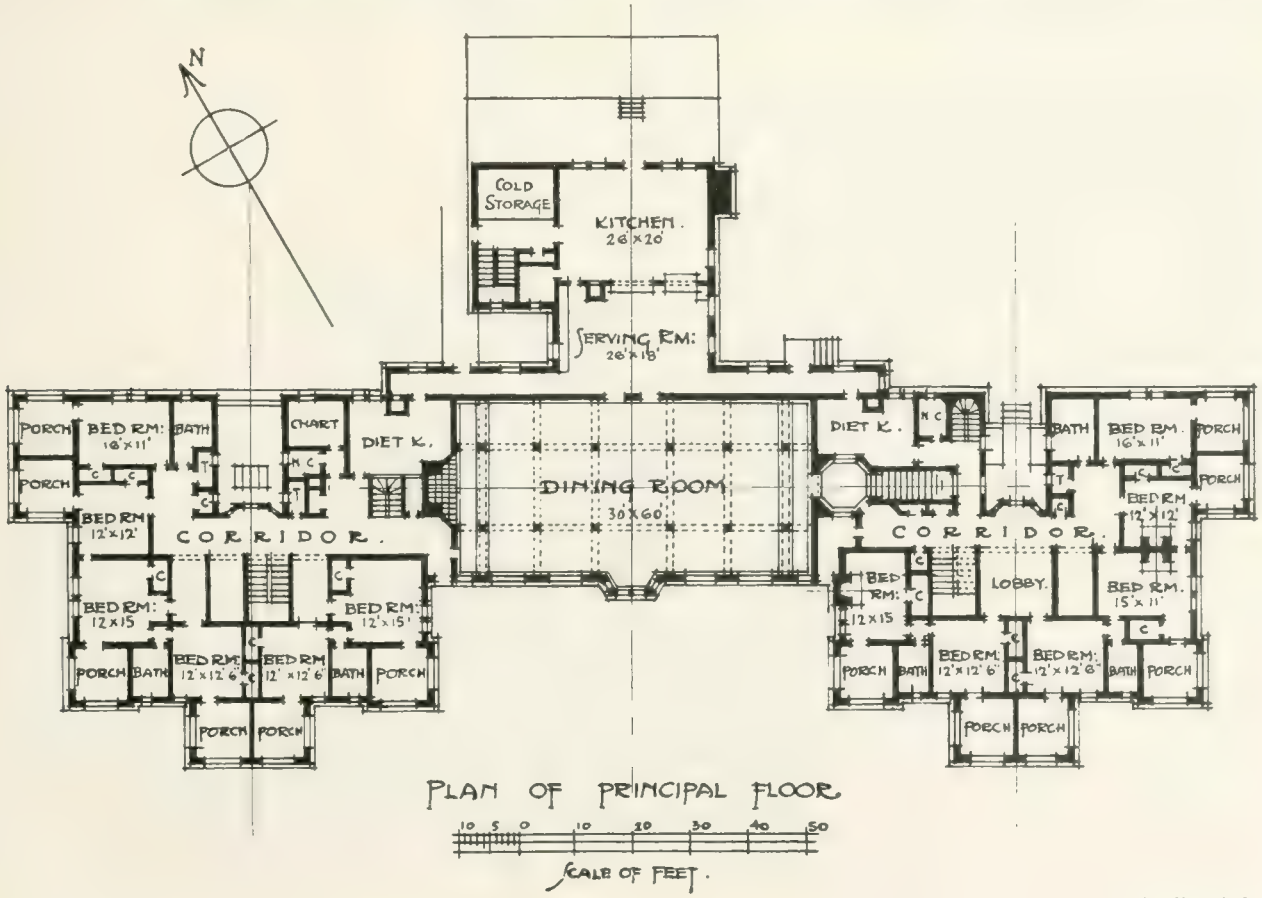


Fig. 3. Plan of principal building, Cragmor Sanatorium, containing, besides patients' suites, the kitchen, the dining room, and the diet kitchens.

Fig. 4. Corner sleeping porch, Cragmor Sanatorium, open on two sides, and large enough to permit a bed to be placed in any position.

heavy hair mattress. Linen and blankets are of the best.

While simplicity is the keynote in the arrangement and furnishing of the apartments, good taste and homelike attractiveness have been carefully maintained. Strict privacy of porch and room is the most important feature.

Toilet rooms, public and private, are equipped not only with shower and tub baths, but also with dental bowls. Each floor has a diet kitchen, nurses' chart room, and hopper room. Laundry chutes connect with the basement. The diet kitchens are equipped with electric stoves, steam tables, refrigerator and steam dish sterilizer.

The main dining room seats about a hundred. Its south side is made up almost entirely of windows from which one gets a splendid view of the prairie and mountains. Windows on the north insure good cross-ventilation and coolness in summer. At the west end is a huge fireplace, which, with the beamed ceiling and tasteful furnishing, makes it an unusually attractive room. Adjoining the dining room and entirely separating it from the kitchen is the serving room. Here are the hot and cold dish tables, steam dish-washer, and various other appliances for prompt and adequate service. The kitchen is well lighted and ventilated and is fitted with every modern convenience for the preparation and cooking of food. The cold storage room adjoins the kitchen and has separate rooms for meat, vegetables, and milk. The power plant provides steam for the vacuum system of heating, for cooking and for the hot water system, throughout the entire institution.

In addition to the new main building there are two eight-room cottages, one for men and one for women, a four-room bungalow and nine individual bungalows. The original central building now combines a large recreation room and library for patients and a splendidly equipped nurses' home. A complete garage and stable equipment is maintained, many of the ambulant patients having their own cars and horses. In the cottages the individual room and porch plan has been carried out exactly as in the main building. The cottages are two stories in height, and comprise, on each floor, four individual rooms with porches and one bath. They are heated from the central plant in the main building. The individual bungalows are similar in type to single room and porch in the

Fig. 5. Cottages, recreation hall, and bungalow, Cragmor Sanatorium.

cottages only on a smaller scale and are also heated from the central plant.

Opportunities for recreation at Cragmor are varied. The recreation hall and library building, with its veranda, serves as a gathering place for

The laboratory is equipped for making vaccine, blood, and sputum tests, as well as other routine examinations.

Nature has made this region ideal for heliotherapy. The roof gardens and porches have been

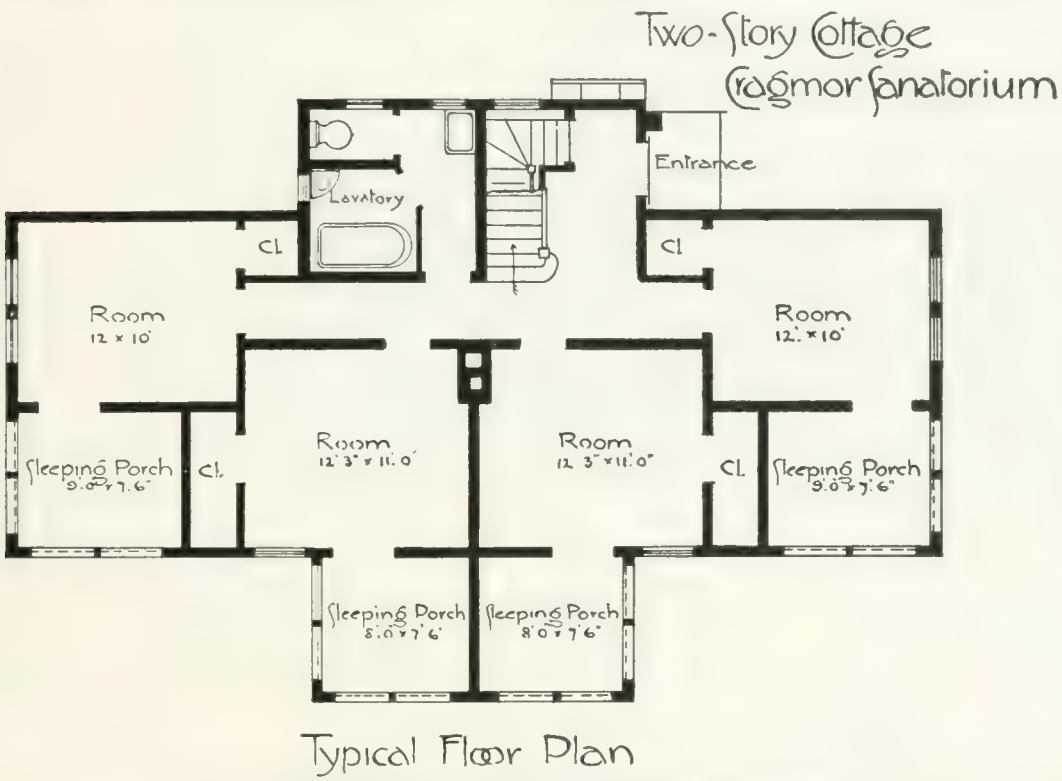


Fig. 6. Typical floor plan of a two-story Cottage, Cragmor Sanatorium.

patients who are up, and provision is made here for music and games. Occasional short musical entertainments or informal parties as a recreational feature are given in the dining or recreation halls. The daily doings of the institution are published by the patients in their inspired journal, *The Cragmor Weekly*. The wonderful drives and trails in the neighborhood are unusually attractive. There are walks ascending the bluff and around the institution which afford views of unsurpassed beauty and interest. Even those confined to their sleeping porches find plenty of occupation in observing the wonderful life of the prairie, the view of the mountains with their ever-changing color and the life of the city below.

Fig. 7. A cottage room, Cragmor Sanatorium.

designed to give the patients the advantage of this natural aid to the cure. The institution is also equipped with a mercury vapor lamp for use in such cases as do not stand sun baths well.

Because endless attention to detail over a comparative long period is essential to the cure of tuberculosis, an effort is made at Cragmor Sanatorium to extend to patients the same friendly interest and sympathy as that existing at home, coupled with scientific medical supervision. Each patient has his own private apartment, and those who are ill are not disturbed by those who are up and about. The desperately sick patient is easily isolated by this arrangement and does not act as a depressant upon his neighbors. Individual porches,

Fig. 8. A section of the lawn and flower beds in front of the sanatorium, showing Pike's Peak in the distance.

as well as rooms, have proved to be a marked advance over the cottage plan with its community porch.

Are the Hotels and Restaurants More Patriotic Than the Hospitals?

For some time past, while traveling about from one city and hotel and restaurant and hospital to another, we have tried to notice wherever possible how far each one was trying to do its duty in the matter of food conservation and we blush to say that from our observations up to date, it seems that the restaurants and hotels and dining cars are doing all that they can do to save and conserve and substitute while some of the hospitals are still making excuses.

Now to be fair, suppose we look at some of these excuses, and try to see how much they really stand in the way, and if the hospital has a right to exemption from this national duty, on what grounds does that exemption stand? One of the usual answers to the question, "What are you doing in the way of food conservation?" is this: "A hospital, of course, cannot do the same as hotels or homes can do, because it is feeding sick people, who cannot do without things that well people can dispense with." And yet we are told by specialists and dietitians and people who ought to know that neither sugar, starch, nor fat are friendly to the digestions of the majority of patients.

The diabetic, the sufferer from intestinal stasis, the post-operative or almost any other hospital patient would certainly not be injured or retarded in his recovery if we should take away from him his highly sweetened desserts, fresh white bread, or pork. To bring this down to bed rock, who does want the things we are asked to save? It is the patient on a general diet, and if this patient has reached the place where a general diet can be given to him, why will he be retarded in his recovery if he gets dark bread instead of white—fish, game, chicken, cheese, or lamb instead of some of the things that the men on the other side who are fighting for us need more than we do?

To show what can be done where there is the will to do it, we visited a hospital of 125 beds, feeding seventy-five nurses and a force of supervisors and help. At dinner in the officers' dining room, the bread was made of two dark flours with just enough white wheat flour to hold them together, the potatoes were fried in a high-grade vegetable oil and were brown and crisp, and the whole dinner was unusually good.

The dietitian told us that not one ounce of sugar had been used in cooking at this hospital for some time, for white corn syrup was substituted in everything requiring sugar; that the hospital was carrying out all food regulations and requests of the food administration; and that the patients, physicians, nurses, and employees were all getting good food and were satisfied with what they were given.

The other excuse heard in the hospitals which were not observing the regulations is this: "Some of the doctors insist on ordering certain things for their patients." Now we are sure that these men, if they are Americans, do not want to be classed with a hospital which we have in mind, which is not helping to save wheat and meat. In this hospital we were greeted in this fashion: "Ja, oh yes, you vant to see de place!"

A Japanese Bit

American Red Cross Society—Dear Sirs: Here I am acknowledged to the question of how I could donate "The Pocket Stove" for the use of the soldier of the front who are fighting to the cold enemy on the other hand of bullets and swords. The stove I am trying to donate had been used for some part of Japan that is very cold, especially for the laborer at outsiding. Its size is about 7 inch by 5 inches with 1 inch thick, having some kind of fuel inside, made of charcoal. In the piece of a cake of this material had been used, will keep some one hour in soldier warm. Reason why I am intended to donate this kind of a thing to the soldiers at the fronts is "I should go to fight." While I was working in the field standing among the storm quite sympathized to the dear fighter in the trenches, and thought how I could keep them from cold. Of course I am not rich enough to deliver the same to every soldiers in the fighting, but some. But I will be quite satisfied if I can carry my thought to the fighter even for one of them. I am a Japanese are patron to the freedom of the Nation of the world. F. TSURUMI.

—Letter received by the Red Cross from California and published in the Journal of the American Medical Association.

The trustees of the J. A. P. Vauclain benevolent fund have filed a petition in the superior court of San Diego, Cal., asking the right to turn over to the county all of its assets for the purpose of enlarging the new San Diego county hospital. The Vauclain fund was created in 1909 for the benefit of those suffering from tuberculosis in the county, having been provided for in the will of the late J. A. P. Vauclain.

BOOKKEEPING FOR SMALL HOSPITALS AND ALLIED INSTITUTIONS

Definitions, Rules, Forms, and Examples of Entries in Single and Double Entry Bookkeeping for Small Institutions

By HERBERT K. CARTER and CHARLES A. PORTER, of the Staff of The Modern Hospital.

[Continued from April issue.]

CHANGING FROM SINGLE TO DOUBLE ENTRY BOOKKEEPING

If the executives of an institution wish to change from single to double entry bookkeeping, it will be necessary to make out a financial statement showing assets and liabilities, similar to Schedule 2 under double entry or the statement of assets and liabilities under single entry. This statement will show the loss or gain of the business, which should then be credited or debited to the capital account, or to the proprietor's accounts if it is a partnership. This will equalize the debits and credits, and give the data for double entry bookkeeping.

The original capital invested is shown in the single entry ledger. Cash is shown in the Cash Book. Accounts receivable and accounts payable are shown in the Ledger. Materials and supplies and equipment will have to be determined by an actual inventory.

SINGLE ENTRY BOOKKEEPING

There are a few small hospitals whose executives will feel unable to keep a set of double entry books for one reason or another, and for their benefit a simple form of single entry bookkeeping is shown in the following pages.

It is not deemed advisable, however, to use this system under any conditions, as it is felt that an institution needing a set of books at all should use the double entry method. It is just as easy and is a complete record.

The single entry ledger, so far as it goes, does not differ in effect from the double entry ledger. It simply falls short of the true idea of a ledger, which is to present the progress of the business.

In the ledger which will be described, bills payable and bills receivable accounts are kept for the reason that so few notes will be given and received that a bill book appears to be unnecessary.

The books necessary for the system described here are the Journal, Cash Book, and Ledger, just as in the previous set.

The Journal contains a record of all debits and credits to persons arising from transactions with them. They should be accompanied by sufficiently clear and complete explanations of the transactions giving rise to the entries, so that anybody will understand the important facts regarding them.

The Cash Book contains a record of the receipts and expenditures of cash. The difference between the totals received and expended give the cash on hand.

GENERAL RULES FOR SINGLE ENTRY

Rule 1. The proprietors are credited for the sum of their assets at the beginning of the business, for subsequent investments in the business, and for the net gain, if any, when the books are closed.

Rule 2. The proprietors are debited for the sum of their liabilities at the beginning of the business, for such sums as they may draw out from time to time, and for the net loss, if any, when the books are closed.

Rule 3. Persons are debited in the Journal when such a person owes the proprietor or institution, or when the proprietor liquidates his debt to such a person.

Rule 4. Persons are credited in the Journal when such a person is owed by the proprietor or institution, or when the obligation is liquidated by the debtors.

Rule 5. Cash is debited in the Cash Book when received.

Rule 6. Cash is credited in the Cash Book when paid out.

Rule 7. Bills payable is credited and a personal account debited in the Journal when a note is given out.

Rule 8. Bills receivable is debited and a personal account credited when a note is accepted.

CASH BOOK

It is the best practice to use a Cash Book in which debits are entered on the left-hand page and credits on the right-hand page rather than to use a double money column Cash Book in which debits are entered in the left-hand column and credits in the right-hand column.

The following example shows the method of keeping this Cash Book.

CASH—Dr., July, 19....

Date	Item	Account	L. F.	Amount	
July 1	Investment	Catherine Williams	2	$5,000.00	
1	Investment	James E. Berry	1	3,000.00	
7	John Jones	On account	10	27.50	
8	R. R. Hogan	In full of account	11	18.00	
12	W. E. Riker	Notes receivable	12	50.00	
12	W. E. Riker	Interest		1.50	
18	P. & S. Supply Company	P. & S. Supply Company	3	4.29	
23	M. E. Reardon	On account	13	25.00	
26	J. A. Sullivan	On account	14	20.00	
29	M. R. Bulder	In full of account	15	14.92	$8,161.21
August 1	Balance			$7,364.71	

CASH—Cr., July, 19....

Date	Item	Account	L. F.	Amount	
July 1	Furniture and fixtures	Sundries	2	$486.00	
3	Furniture and fixtures	Sundries	2	78.00	
9	R. O. Dunn	Sundries	2	14.00	
9	E. S. Hutchins	Sundries	2	14.00	
9	A. R. Donovan	Sundries	2	20.00	
12	Union Grocery Company	Union Grocery Company	5	37.50	
16	R. O. Dunn	Union Grocery Company	2	14.00	
16	A. R. Donovan	Union Grocery Company	2	20.00	
16	E. S. Hutchins	Union Grocery Company	2	14.00	
17	Henry Allen	Union Grocery Company	2	79.00	
19	Maude Small	Union Grocery Company	2	8.00	
28	Jennie Johnson	Union Grocery Company	2	12.00	$796.50
31	Balance				7,364.71
					$8,161.21

THE JOURNAL

The following example will illustrate the use of the Journal in this system:

JULY, 19....

Date		L.F.		
July 1	James E. Berry.....Cr.	1		
	Investment, house and lot		$8,000.00	
	equipment		4,950.00	
	notes receivable		50.00	$12,000.00
1	P. & S. Supply Co.....Cr.	3		
	Sundries, invoice No. 1			1,421.00
1	John Jones.....Dr.	10		
	Professional care			40.00
1	Manson E. Hughes.....Cr.	4		
	1 screen door		$4.00	
	4 screens @ 60c		2.40	$ 6.40
2	R. R. Hogan.....Dr.	11		
	Care 6 days @ $3.00			18.00
4	Union Grocery Co.....Cr.	5		
	Sundries, invoice No. 2			49.00
14	M. R. Bulder.....Dr.	15		
	Care 7 days @ $2.00		$14.00	
	Sundries		.92	$ 14.92

Date		L. F.	
July 15	P. & S. Supply Co.....Dr.	3	
	Rebate, invoice No. 4.....		$ 4.29
15	Henry Allen.....Dr.	6	
	Professional care.....		46.00
16	Notes receivable.....Dr.	7	46.00
	Henry Allen.....Cr.	6	46.00
	Note in temporary settlement.		
18	Standard Supply Co.....Cr.	9	
	Equipment, invoice No. 3.....		900.00
19	Notes payable.....Cr.	9	900.00
	Standard Supply Co.....Dr.	8	900.00
	Note in temporary settlement of account 6 months @ 6 percent.		
23	M. E. Reardon.....Dr.	13	
	Care 10 days @ $5.00.....		50.00
26	J. A. Sullivan.....Dr.	14	
	Care 8 days @ $5.00.....		40.00

LEDGER ACCOUNTS

19....

Dr. No. 1 James E. Berry (Proprietor) Cr.

July 31	Loss and gain		$110.40	July 1	Investment	J. 1	$12,000.00
				July 1	House, lot, and notes	C. B. 1	3,000.00

Dr. No. 2 Catherine Williams Cr.

July 31	Loss and gain		$110.39	July 1	Investment	C. B. 1	$ 5,000.00

Dr. No. 3 P. & S. Supply Co. Cr.

July 15	Sundries	J. 1	$ 4.29	July 1	Sundries	J. 1	$ 1,421.00
				July 18	Cash	4	4.29

Dr. No. 4 Manson E. Hughes Cr.

				Jan. 1	Sundries	J. 1	$ 6.40

Dr. No. 5 Union Grocery Co. Cr.

July 12	Cash	C. B. 1	$ 37.40	Jan. 4	Sundries	J. 1	$ 49.00

Dr. No. 6 Henry Allen Cr.

July 15	Sundries	J. 1	$ 46.00	16	Notes receivable	J. 1	$ 46.00

Dr. No. 7 Notes Receivable Cr.

July 16	Henry Allen	J. 1	$ 46.00		W. E. Riker	J. 1	$ 50.00
	W. E. Riker		50.00				

Dr. No. 8 Notes Payable Cr.

					Standard Supply Co.	J. 1	$ 900.00

Dr. No. 9 Standard Supply Co. Cr.

July 19	Notes payable	J. 1	$900.00	July 18	Sundries	J. 1	$ 900.00

Dr. No. 11 R. R. Hogan Cr.

July 2	Sundries	J. 1	$ 18.00	July 8	Cash	J. 1	$ 18.00

Dr. No. 13 M. E. Reardon Cr.

July 23	Sundries		$50.00	July 23	Cash	C. B. 1	$ 25.00

Dr. No. 14 A. Sullivan Cr.

July 26	Sundries		$ 40.00	July 26	Cash	J. 1	$ 20.00

Dr. No. 15 M. R. Bulder Cr.

July 14	Sundries		$ 14.96	July 29	Cash	J. 1	$ 14.92

FINANCIAL STATEMENT

JULY 31, 19....

ASSETS		LIABILITIES	
Cash	$ 7,364.75	James E. Berry	$15,000.00
Property	11,950.00	Catherine Williams	5,000.00
Furniture and fixtures	400.00	P. & S. Supply Co.	1,421.00
Equipment	2,300.00	Manson E. Hughes	6.40
Notes receivable	46.00	Union Grocery Co.	11.60
John Jones	12.50	Notes payable	900.00
M. E. Reardon	25.00		
J. A. Sullivan	20.00		
Total assets	$22,118.21	Total liabilities	$22,339.00
		Loss	$ 220.79

JOURNAL ENTRY

James E. Berry	Dr.	$110.40	
Catherine Williams	Dr.	110.39	$ 220.79

INVOICES

The simplest manner of handling invoices is to number them in sequence as they come in, and place unpaid bills in a file marked Unpaid Bills. As these are paid they are placed in another file and marked Paid Bills. These invoices do not need to be entered in the Journal if the institution is to pay the bill immediately, but all such invoices remaining unpaid at the end of the month should be entered in the Journal and posted to the ledger, so that the books will be as complete as possible.

[Installments on Hospital Accounting, with reproductions of pages of bookkeeping, to follow.]

THE VOLUNTEER IN OUT-PATIENT WORK*

Waste Involved in Making Physicians Write Histories and Do Other Clerical Work—Volunteer Work a Solution of the Problem

By CHARLES HENDEE SMITH, M.D., New York City.

IN the development of modern medicine the ward service has gone far ahead of the out-patient department. In the ward every patient has a careful history, thorough and repeated physical examinations, and the use of all the methods of the laboratory, to aid in reaching a complete diagnosis. In out-patient work the physicians have to see so many patients during the dispensary hour that it is impossible to give any one patient more than a few moments' time. The result is that incomplete histories, hasty examinations, and snap diagnoses are the rule. The root of the difficulty lies in the fact that highly trained men do work which is largely mere clerical routine.

In no other profession is there such an example of inefficiency. It is impossible to imagine a lawyer or an engineer, after years of study and practice, sitting down and writing out in laborious long-hand the facts of any case or problem upon which he is at work. But physicians with ten or twelve years of study and as many more of experience are every day taking down routine facts from patients in nearly every out-patient department in this country. This waste of time and effort can only be characterized as criminal. Most of the history-taking and other routine work in the out-patient departments could be perfectly well done by clerks. Institutions are poor, however, and have no funds to pay clinic clerks; consequently, unless some other source is found upon which to draw, it is necessary to condemn the physicians to history-taking and similar routine work. The patients suffer as a result, because the physicians have too little time to spend in examinations and in consideration of their cases. This situation is made much worse by the shortage of physicians due to the war.

The volunteer worker has come forward as a solution of this difficulty. There are many women in the cities of this country who are willing and eager to do charitable work of all kinds, especially at present when women are seeking opportunities to serve the nation in any necessary way. For several years volunteers have served in the hospitals in Boston as aids to the social service workers and as clinic assistants. In New York volunteers have worked in a similar way only within the last year or two. Two or three have been in attendance at the Vanderbilt Clinic for three

*Paper read before the Associated Out-Patient Departments of New York City, January 25, 1918, at the Presbyterian Hospital.

years, and the Good Samaritan Dispensary and Mount Sinai Hospital have also used them.

In the winter of 1917 the children's medical division at Bellevue Hospital received an application from two women who wished to come as volunteer workers. They came at first as assistants in the infant feeding room and proved so useful and so enthusiastic that it was at once seen that the volunteer offered great possibilities in out-patient work. When our country entered the war an appeal was sent out to the National League for Women's Service and some other organizations, and in a short time more volunteers were obtained than could be used.

Under the present plan each volunteer comes to the hospital from two to five days a week. There are eight to twelve on duty each day. They are assigned to certain rooms at each visit and have carefully defined duties. They take the histories of new patients on a printed form, which is carefully arranged with the idea that it is to be used by persons with little training. The volunteers then weigh and measure the patient, take his temperature, and prepare him for examination by the physician. The physical examination is made by the physician and in many cases is dictated to the volunteers. They give out diet lists and other printed forms, and explain them to the mothers and children in detail. After the doctor has finished with the child the volunteers are encouraged to advise the mothers as to the diet and hygiene of the children while taking the histories, since this is the natural time for the correction of errors in these matters. They see that the mother understands where to get medicine, what she has been told to do, and when to come back. In filing and in getting out charts these workers save a great deal of time for the clerk of the department. Return notes are also made by the volunteers on the charts at subsequent visits of the patient, and these are often of considerable length when the patient has some new illness.

Without a follow-up system it is impossible to conduct an out-patient department properly; half the interesting cases do not return and the work done upon them is wasted. The volunteers make out and keep up the follow-up cards. They send out postals to patients making return appointments, and note the patients who do not answer these postals, so that they may be visited by the social workers. They are also very useful in getting patients in touch with the social service department. The social worker who does home visiting cannot always be in the dispensary, and the volunteers keep lists of the patients who are to be visited to give to the social worker. The social workers are released from all clinic nurse duties so that they are able to attend to much of their true social service work in the out-patient department. In the past the social service workers have wasted much of their time in taking temperatures, weights, etc., which is really clinic nurse work.

To make progress in out-patient work it is necessary to form classes in many subjects. Without such classes the only interest in dispensary work lies in the occasional rare case. The special class enables the physician to group all the cases of one kind together and to make real progress by study of their points of similarity and difference. In these classes the volunteers are invaluable. They not only take histories and return notes, but also can take small groups of patients and help to teach them important points in diet, hygiene, etc.

The infant feeding class requires much routine work. To follow a feeding case properly, it is necessary to weigh the baby at each visit, to take his temperature, and also to note on the chart exactly what the mother is feeding him, his symptoms, such as vomiting, appetite, colic, stools, sleep, and any developments since the last note. These notes are made on printed forms for the sake of clearness and completeness. This takes a great deal of time since there are fifteen to thirty babies a day in this class, and three volunteers are kept busy in it. The physician reads the note made by the volunteer, makes additions or corrections and adds his own notes, and prescribes the new feeding. The classes for "runabouts" (children from 15 months to 3 years old) also require three volunteers each day to properly keep up the records. The cardiac, enuresis, syphilis, and nutrition classes for older children use two or three volunteers each besides the social workers, to take weights and histories and to make return notes.

In order to save time it is necessary that the working equipment of the dispensary be kept in perfect condition. Certain volunteers are assigned different parts of this equipment which they keep in order, such as throat-culture tubes, boxes containing the requisites for making Von Pirquet tests, vaccination outfits, laboratory equipment, and simple surgical dressings.

All of these things take time and no one of them requires a high degree of training. The physician, freed from routine duties, is able to spend his time on work which utilizes the training which he possesses. The volunteers have made it possible to keep the standard of the work up to the highest point at Bellevue, and to continue the classes in special subjects which would otherwise

have been dropped, owing to the shortage of physicians.

Certain requisites are necessary if the volunteer system is to be used. In the first place the entire work must be carefully arranged and systematized so that the duties for each volunteer are comparatively simple and definite. It is necessary to have one person in charge to train the volunteers, answer their questions, watch the character of their work, and change them about from one type of work to another as their capabilities are learned. This person at Bellevue is one of the first volunteers, who has been tireless in organizing the work and making suggestions for new methods.

A printed form for the history is indispensable. It saves much time in the training of volunteers, who must otherwise be taught to follow a form which must be copied for every history. This task would not only be tedious but very inefficient, as it would take about five minutes to copy the printed matter on our histories, which comprise about fifty questions. The printed form thus saves five minutes on every history taken, and it has the added advantage of always showing the same fact in the same place. Anyone familiar with this kind of work will recognize the value of not having to read over a long manuscript to find out a desired fact which never appears in a definite place on the sheet. The printed forms also remind the physician to make full physical examinations, because there is always a place which remains blank if the examination is not complete. The only disadvantage is that the space assigned to each item may be too small. It is a simple matter, however, to make a note to "see next page" and continue the history to any desired extent. The chief objection is that it may tend to make the histories somewhat set or inelastic, and this must be guarded against by the physician when he reads over the history, at which time he can make any corrections or additions he desires. Rubber stamps are of value in making the return notes. They are useful reminders to the volunteer of the kind of facts to be noted on return visits.

This system of printed forms and volunteer workers is applicable to almost every kind of outpatient department. It has been developed farther in children's clinics, but there are many adult and special clinics which could use it perfectly well. It is merely necessary for the heads of these clinics to take a little time to devise a plan and to train one or two volunteers to the work. These in turn can train the others.

The value of this work to the dispensary is great, but it is not entirely a one-sided matter. There are many women who are themselves greatly benefited by it, for it gives them something really worth while to do. The human interest in the patients with whom they come in contact, and the lessons in practical medicine which they learn, must prove of value to anyone. As one volunteer expressed it, "It is a great deal more fun than rolling bandages."[1] It seems as if this work ought to hold its appeal even after the war is over, because there must be many women who are looking for just this opportunity to fill their spare time with work of practical service. In some institutions volunteers have not been found dependable, but have stayed away for petty reasons. Perhaps Bellevue's hold upon the volunteer is due to the fact that each one is given to understand that she is not wanted unless she is willing to come regularly on two or more days a week, and after having a two weeks' trial she must sign an agreement to come for at least three months. Very few have dropped out after the preliminary trial. There has been a waiting list of from ten to fifteen for several months, and applicants are constantly being refused. It has been found that it is better to have a small number who attend several days a week each, rather than a great many who come only once or twice a week. Since the volunteers began to work at Bellevue the idea has spread to other hospitals all over the city and is now being widely used.

From the experience of the last six months it is evident that volunteer work supplies a great reservoir from which can be drawn an unlimited amount of labor, time, energy and enthusiasm which conserves the valuable time of the trained physicians and effects better study and care of the patient. It goes a long way toward solving the vexed problem of the dispensary.

A Modern Hospital for Wuchang, China

By GRACE HUTCHINS, Member Women's Committee of the Church General Hospital Boston.

Readers of THE MODERN HOSPITAL who saw in the April, 1917, number the article on the Central Hospital of Peking, will be interested in the plans for another hospital in China. It is in Wuchang, one of the largest cities in Central China. The only other hospital in the whole city is a small one under the London Mission. Medical work in this city has been carried on for many years by the American Episcopal Mission. The doctors and nurses are of the best. One young Chinese doctor is a graduate of the Harvard Medical School in China, which has since been taken over by the Rockefeller Foundation. The other

[1]The volunteers at Bellevue have organized a permanent clothing fund, and given out articles of clothing and money for clothing and shoes through the social service workers. They also conducted a Christmas Fund from which over 700 toys and 600 useful articles were given to the children who attended the clinic during Christmas week.

The picture represents the proposed Church General Hospital at Wuchang, China. The frontage is approximately 400 feet, and the extreme depth of the property is 500 feet. The two gates, one for men and one for women, open on waiting rooms, and the one-story unit furnishing the entrance to the hospital will house the out-patient department. The hospital proper is in two stories, and has an extreme length of 220 feet; to this is added an open roof garden and a covered unit intended specially for use as a tuberculosis department. The residences for physicians and nurses are shown at the left. Still others are indicated in the rear, over the roof of the main building. The total cost of the plant, including land, is expected to be $160,000.

doctors and nurses are Americans, who are training Chinese nurses, both men and women.

Patients come from every corner of the great city and the outlying districts. High officials no less than coolies depend upon Dr. MacWillie and the other doctors and nurses on the men's side of the hospital. Buddhist, Mohammedan, and Christian women lie in adjoining beds on the women's side. The children's ward is always filled. One little child named Pao Chu or "Precious Jewel" came tottering in through the hospital gate over a year ago. She was a little four-year-old, covered with sores, exhausted by a raging fever, and all alone. Dr. James and Miss Dexter were not sure that she would live, but she did. They made investigation and found that the child was not wanted by her relations. She was only a girl, and there were too many girls in their family already. Someone had cared only enough to send her in through the gate with the hope that some foreigner would take care of her. So Dr. James decided to keep her as her own child. Some day, when she is old enough, Precious Jewel will go to school. Meanwhile, she enters into all the life of the hospital and goes about with a happy smile. She sings with the other children in the wards, picks up their toys for them, and tries to amuse the little newcomers who are homesick.

This is only one of many children. Hundreds of patients are cared for each week. These American doctors and nurses are not only relieving suffering, but, best of all, they are training Chinese doctors and nurses to carry on the work with the highest Western standards.

But we should be ashamed to have the Chinese think that the institution with its present equipment is a model to be copied. The buildings are old Chinese houses. The boards are rotten and give way almost every day. Rats, centipedes, scorpions, ants, and so forth, live in the decayed wood of the walls and floors. There is no plumbing. There is no way of heating the buildings, which are built in Chinese style around dark, damp courtyards. During January, 1917, there was a solid freeze for three weeks. The coolie washed the floors and the water froze at once. The cook in the open shed that serves as a kitchen on the women's side of the hospital, struck, because the snow was going down his neck.

Plans for new equipment include land, buildings, and residences. These plans have been drawn by Messrs. Shattuck and Hussey, the Chicago architects. The drawings are here reproduced.

Gifts for this Wuchang Hospital may be sent to Philip J. McCook, Treasurer, 15 William Street, New York City.

British Hospital Trains

The hospital trains as used by the British are models of completeness and sanitary excellence, says "A Military Observer" in the April *Military Surgeon*. They consist of passenger coaches of the finest type, more like the American car than anything else seen on this side of the water. The ordinary hospital train consists of one car with compartments for the commanding officer, his one or two assistants, and the nursing sisters, along with a mess and bathing facilities for each group; an operating and dressing room car, a car for baggage and supplies, a varying number of ordinary coaches for the ambulant patients; and coaches provided with racks on which the stretchers containing the recumbent patients are placed. These racks are so constructed that three tiers of stretchers can be accommodated on either side of the aisle.

One of these hospital trains will accommodate as many as five hundred or six hundred patients. A patient is never removed from the stretcher from the time he is placed in the ambulance at the evacuating point until his reception on the hospital ship, and in some cases until his arrival at the convalescent hospital in England. The skill, ease, and rapidity with which patients are handled is remarkable, and the happy expressions on the faces of even the severely wounded and seriously ill are the best evidence of the satisfactory manner in which the transportation of the sick and wounded is being carried out.

The hospital ships are equipped in much the same manner as the hospital trains, large wards taking the places of the rack cars.

The Carrel-Dakin treatment is carried on in hospital trains and ships just as carefully as in stationary hospitals. Minor operations and dressings are done with great success in the operating rooms of both classes of invalid transport.

The Norwich (New York) Hospital Committee have been authorized to let contracts immediately for the remodeling of a large residence, donated to the city to be used as a public hospital. When the hospital is completed it will provide space for thirty-five beds. Attached will be a home for eight nurses, reconstructed from a brick garage.

The MODERN HOSPITAL

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SUBSCRIPTION.

Domestic postage, $3.00. Foreign postage, $3.50 (15 Shillings). Single copies, 35 cents.

Domestic rates include United States, Cuba, Mexico, Porto Rico, Canal Zone, Hawaii, and Philippines.

Contributors, subscribers, and readers will find important information on advertising page 42.

The Hospital Standardization Movement and the American College of Surgeons

We publish this month, under "Letters to the Editor," some interesting correspondence on the subject of the first hospital survey of the American College of Surgeons. While it is only natural that there should be some divergences of opinion at first between the college and the hospital people, because they approach the subject from such widely varying angles, we believe that exchange of views will probably show these differences to be more apparent than real. THE MODERN HOSPITAL, looking with much hopeful interest on the efforts of the American College of Surgeons, feels that it can render the cause of hospital standardization no greater service than by opening its columns to discussion on both sides. Toward this end we have asked the director of the college, Dr. John G. Bowman, for an authoritative statement of the purpose of the hospital survey made by the college, and he has kindly furnished the following:

"Staff members of the American College of Surgeons are now engaged in six states in the Union upon the hospital survey of the college. While it is still too early for a detailed report of progress, it seems worth while here to state some of the questions being asked by the hospitals concerning the work and to answer these questions.

"First, what is the purpose of the survey? Again and again the question is asked.

The purpose of the survey is to make for the better care of folk who are ill. It is to create in the medical profession and among hospitals an increasingly keen sense of responsibility in the care of patients. It is to help in making hospital aims come true.

"To carry out that purpose is a large order. How can it be done? Is the program of action practicable, workable, effective? The first step is to convince doctors, hospital trustees, hospital superintendents, and ultimately our entire citizenship that the struggle for the better care of patients is sane, unselfish, and grounded in truth. The response from doctors and hospitals already indicates that the first step has been taken, and that a spirit of aggressive earnestness of purpose has been aroused in the medical profession. Hospital standardization is an awakening of a spiritual impulse which compels action.

"But, if we are agreed upon the results we want, what action will produce those results? There is doubtless more than one good answer to this question. The answer of the college is published in its bulletin, Vol. III, No. 3. Briefly the college asks: What does the hospital do for its patients? Do the trustees and staff from time to time review, preferably in joint session, the work done in the hospital in medicine, surgery, obstetrics? Do they use these data in a sincere effort, first, to get at the facts of successful work and of failures; second, to remove the causes, in so far as they can, of unsuccessful work; and, third, to find in their own records and in their very association together some source of inspiration toward the fulfilment of their own highest purposes? On these matters the college seeks exact information.

"Let us assume, for example, that the case records in surgery in a hospital during the past three months, as they come before the trustees and staff, indicate that 11 percent of the patients developed infection during convalescence. The facts as to the percentage of infection may easily be determined from properly kept records. But obviously 11 percent of infections is a serious indictment of the surgical service. Now let us assume that 90 percent of the infected cases were patients of a particular surgeon. It seems reasonable that both the trustees and the staff should take a firm position that this surgeon either discover the cause of the infections and remove that cause, or discontinue practice in the hospital. Further, in this connection, questions will naturally rise as to the nursing technic in the operating room. And, again, someone will ask: Are septic and clean cases operated on, one after another, in the same operating room?

"Too much emphasis in these reviews cannot be placed upon the value of post-mortem examinations. It is advisable that the pathologist report his findings in each post-mortem together with the diagnosis and treatment of the case. Further, the pathologist should report all deaths in the hospital during the period under review and what effort had been made in each case to obtain a post-mortem where it was not made.

"Meetings of the trustees and staff should be held at regular intervals. It is important that the review of the work done in the hospital during the period covered be fearless, accurate, and constructive, looking toward improvement rather than merely the finding of fault.

"The statement is sometimes made that the staff cannot be got together—that the doctors would not be present at the meetings if invited. If such a condition is true, it is a serious indictment against the governing authority of the hospital and against the honor of the staff. The product of the hospital is service to its patients; and if those charged with the responsibility of creating this service cannot with all sincerity get together to consider their

own success or failures, the situation is without thinkable justification.

"Again, this question is asked: What power has the college to enforce its plan of hospital standardization? The college has no legal, political, or financial power to make demands of a hospital. It desires no such power. It rests its case on the patriotism and common sense of hospital folk and the medical profession. In the end, too, the whole program must go to the public for its judgment. But only in so far as the program is practicable and right, does it merit success or will it succeed.

"The entire plan of the college is the outgrowth of years of thought. It is an effort on the part of the medical profession itself to make swifter progress, to meet and to be worthy of the trust reposed in the profession by the public.

"From some of the smaller hospitals comes this question: What will be the effect of hospital standardization upon the hospital, let us say, of fifty beds? The question implies some feeling that standardization will tend to increase the usefulness of the large hospital at the expense of the small hospital. No valid reason has yet appeared which seems to justify such a conclusion. The merit of hospital service is not to be measured by the wealth of the institution, its architecture, or by the professional reputation of its staff. There is no reason why a patient should not receive as efficient care in a hospital of fifty beds, or less, as he would receive in a large hospital. Any readjustment which may be brought about by standardization as to the relation of hospitals to their communities will be solely upon the merit of service. The basic consideration is that each hospital, large or small, accept for treatment, except in emergencies, only such cases as it is by equipment and training of its staff honestly qualified to treat.

"An exceedingly fortunate fact in connection with the work of the college is the standardization both of the medical profession itself and of hospital procedures now in effect in the medical services of the Army and Navy. Here thousands of physicians and surgeons under military exactness are being trained in professional efficiency. When these men return to their respective hospitals they will not willingly accept standards of less merit. The head of the medical division of a great base hospital under recent date writes:

" 'The government does not expect a man to be perfect and is very willing to overlook errors of judgment, but it has no patience with errors due to neglect. The record must show in every case that every available resource for making a correct diagnosis and instituting appropriate treatment has been used.

" 'There is a great deal that all of us who have had the experience of base hospital work can carry back to our home work with the greatest profit. Our hospitals will surely be the better for it!' "

War-Time Savings

The hospitals of the country are invited by the National War-Savings Committee to save—to save relentlessly.

Total expenditures, 1915, $470,000; total expenditures, 1917 (volume of work unchanged), $690,000! This is a common story. It needs no argument to convince the hospitals that we are at war, and that, in war-time, economy is the order of the day. How long shall we economize?

First of all, we must arouse in all our employees and in all the members of our professional staffs, a loyal and patriotic desire to help; so much is agreed. But not relying on this, we must improve our system, gain perfect control of distribution and consumption, and check results. Every single procedure that involves the use of labor or material must be reexamined: wherever possible, methods must be improved; wherever practicable, material must be reused; all apparatus and instruments must be handled with tender care.

Wages have risen and will rise again. There is no hope here, except in reducing the relative number of persons employed. Is this possible?

To reduce the ratio of workers to patients would be to reverse an established tendency, attributable mainly to the growing complexity of improved medical technic, and in a less degree to the gradual shortening of the hours of labor. Shall we reintroduce a simpler technic—abandon the newer methods of diagnosis, treatment, and convalescent care? Hardly.

Will nurses go back to a twelve-hour day? Will engineers and firemen? Should they? There is little hope here, unless the war should be of such duration as to enforce similar sacrifices on everybody.

Slight gains might be made by combining small hospitals which are now maintaining laboratories, x-ray plants, and so forth, on a basis which is not economical. For the present, such combinations can only be encouraged as voluntary measures. Later we shall see what we shall see; to achieve efficiency in war, the nation may be compelled to demand of institutions, as well as individuals, some sacrifice of individual liberty.

By bringing volunteers into the service of the hospitals, real gains may be effected. There are many women, now wholly or partly idle, who wish to serve their country. When the supply of regular nurses falls short of pressing requirements, these women will find their opportunity—indeed, they are already at work in many hospitals. The utilization of the services of such volunteers undoubtedly lowers efficiency where the volunteer replaces a trained worker; but, when the volunteer steps into an empty place, the result is gain to the hospital in work done and in wages saved, and gain to the nation in the conversion of an idler into a worker.

There are two principal avenues to hospital economy in war-time. The first is to be found in the intensification of every public and private effort for the prevention of accident and disease. The second lies in the avoidance of all unnecessary duplication of plant and equipment. The National War-Savings Committee should first of all address

itself to the public health service, and then to the general staff of the army, who can do more to realize hospital economy during the war than any other single agency, public or private. The army's declared hospital policy can be materially improved in the interest of national economy and efficiency.

S. S. GOLDWATER.

Hospital Service During the War

There is a natural tendency now, when all energies are directed toward winning the war and all attention is focused on the battle front, for the health of the civilian population to become a matter of slighter public interest. It is consequently much more difficult than in normal times to arouse an interest in civilian hospitals.

The truth of the matter is that at no time is the health of the civilian population a matter of greater importance than during the war. Not only does the health of the army depend more or less on the health of the population from which it is drawn, but the morale of the army is largely dependent on the morale of the people from whom the soldiers come, and this morale is bound to become seriously affected if disease is allowed to undermine the public health.

Civilian hospitals are, if anything, more important during war than during peace, for when the supply of civilian physicians is reduced by demands from the army, it is doubly necessary to conserve the energies of those that are left in the civilian field. It is out of the question that the greatly diminished numbers of physicians left to serve the home population should be able to cope with the situation unless they are saved the necessity, as far as possible, of making long journeys to see private patients who might be better cared for at a great saving of time and labor if they were gathered together under a hospital roof.

Nor must it be forgotten that there is an increased incidence of disease even among the civilian population, owing to the increase in nervous strain if not in actual material privation. All these factors make the problem of conserving the health of the population at home, as we have said, one of even greater importance during war than during peace. The long hours and exertion of workers in war essential industries, the intense operation of railroads are straining the workers in every way, so that more than the usual amount of medical treatment in normal times will be required to maintain them in good physical condition to maintain the necessary quantity of production and attending transportation.

Early in the war the government requested that as little actual building as possible be undertaken until the demand for material and labor for immediate war time uses had been determined, but it is now known that the request was based principally on conditions prevailing in certain restricted areas and on account of the great demand for certain materials. The greater number of the workers in industrial cities of the northerly Atlantic coast states are employed in manufacturing so that the launching of an important building project would draw labor from plants manufacturing war essentials. It has now developed that there is considerable idle labor west of the Alleghenies, which can and should be employed to produce money, the real sinew of war, and that it would be much better to have it employed and thereby productive of money, in our determination to win the war, than to have it unemployed.

The fact that almost every pound of steel manufactured is needed for ships, munitions and war auxiliaries and much of the lumber for ships, aeroplanes, and army housing also made it appear that buildings should not be undertaken, but, inasmuch as comparatively small quantities of steel are required for buildings of reinforced concrete construction, there can be little objection to their erection. Since the cantonments have been substantially completed, the government demand for lumber is mainly for material of large dimensions, required for ships, leaving the small-dimension material for use in buildings. Large quantities of steel forms for concrete work are piled in yards available for immediate use; there is now almost no demand for the stocks of brick and many other materials which are on hand. The government does not require great quantities of brick, lime, cement, gravel, sand, stone, plaster, and many other items required for hospitals. Most of the more bulky of these materials are within wagon haul in almost every locality, or require very short railroad transportation, and architects can design hospitals to be built substantially of such local materials. In view of these conditions, the use of such materials will not infringe on the government's program.

As another means of meeting the immediate emergency, we have previously suggested that in many cases well-constructed old residences may be remodeled at comparatively little expense for hospital use. It is probable, however, that the close of the war will be followed by a great demand for new hospitals, and that this period, when labor will be released once more for civilian activities, will be an exceptionally favorable time for hospital construction—much more so than after all readjustments in the labor situation have taken place.

Would it not be advisable, therefore, now while architects have more leisure than usual to study the problem, for communities to prepare for this after-the-war readjustment, by making a careful survey of their hospital needs, and giving the consulting architects ample time and opportunity to study the situation thoroughly?

An Administrative Hospital Economy

As preparation for the war proceed, it is becoming every day more evident that money with which to win the war is going to be called for almost to the exclusion of the needs of our peacetime activities. People who have been contributing liberally to the support of hospitals in the past are precisely the same people whose philanthropy and patriotic impulses will prompt their liberal support of the government for the war.

Consequently, funds for hospitals will grow scarcer and scarcer, and it therefore becomes absolutely necessary for the hospitals to think about making up their deficits from other sources. Of course, the first thing to do about this is to cut expenses to the lowest possible point; we cannot lower the grade of our service to the sick. The question then comes up, What are some of the items on which we may concentrate and on which we may expect a saving?

The pay-roll of the hospital amounts to about one-third of the total expenditures. Suppose we could cut the pay-roll very radically, would not that help us to a considerable saving?

This is an era of service. The war is leveling all ranks; there are no classes and masses any more. The rich who have been hard put to it to find occupation for themselves for years before the war are now volunteering, not to satisfy a sentiment, but to be of real service to the country.

We have often discussed the comparative uselessness of convalescent patients for any part of the labor of the hospital, and every once in a while we have thought out loud among ourselves about the utilization of volunteer services or supporters and friends of the hospital. This class of help has not been encouraging in the past, but we are wondering whether something cannot be done about it now. Women have taken a new attitude toward their own status, and we are finding every day women of wealth and position, butterflies of fashion, who are going into Red Cross stations and doing real work, work that requires a certain amount of discipline, a certain amount of supervision, and a definite amount of their time. In the war-stricken countries women's volunteer service has been reduced to a science and is to be counted on in no inconsequential way.

Let us name a few jobs in the hospital that intelligent, well-educated women could do after a very little training—say a few weeks at most.

They could help in the kitchens and in the service rooms and in the diet kitchen.

They could do a great part of the clerical work, including the copying of many medical records. We would personally undertake to teach the average well-educated woman in thirty days to take a history better than the average intern now takes it and records it in the average hospital.

Much of the dispensary work could be done by these volunteer women; for instance, the admission of patients, their distribution to the various doctors, and the writing of their histories. Such women could help the doctors, after a week's training, in applying the simpler dressings.

They could do very much of the work in the hydrotherapeutic department, the giving of special baths, the cabinet sweats, some of the simpler forms of massage, especially for the children.

They could be of very great assistance in helping the nurses, especially in some of the work that the nurses have to do immediately on their entrance in the hospital as probationers, such as the making and changing of beds, tidying up of the wards and rooms.

They could relieve the nurses many times in the entertainment and diversion of convalescent patients, both ward and private, and thus release a trained nurse to do more highly technical, if not more important, things.

They could help in the sewing rooms and in the counting and distribution of the clean laundry. the marking of new linens, and the like.

They could be of very great use in the service rooms in helping to set up the trays.

It costs a lot of money to make operating room garments, nurses' and domestics' aprons, and to make up many of the dressings; generally probationer nurses are started on their careers in the bandage rooms. These young women can be hurried along, and the volunteer labor could be utilized for a great part of that work.

Before we can do anything with this sort of volunteer labor, it will be necessary to adopt some pretty strenous measures for the training and discipline of volunteers; but if a volunteer worker is given to understand when she enters the hospital that the work she is to do is just as important as the nurses' work, and that in order to do it well she will have to submit to a definite training and a definite discipline, and serve a definite number of hours for some definite period of probation, there ought not to be great difficulty in arriving at some satisfactory hospital help.

Perhaps, as a recognition of what is just as

patriotic service as though performed on the battlefield, the hospitals might give such volunteer workers a certificate of proficiency on the completion of a definite course of training, or the right to wear certain distinguishing insignia not likely to be confused with any feature of the nurses' uniform.

Young women are volunteering in Europe for work in the kitchens and in the soldiers' quarters on the battlefronts—women of education and refinements, who have never done any work in their lives; women of title and education and vast wealth are working in the munition factories of England and France right by the side of their humbler sisters who must work for a pittance in order to live. The sooner we get to this point in our education for the war the sooner we will begin to get results. Let us put some of these economies into practice and thereby "help win the war."

The Community Function of the Hospital

Dr. Stafford McLean's paper on the standards for children's hospitals, presented on another page as the first in a series on the standards of special hospitals, may be read with pleasure and profit by all who are interested in the subject of standardization. Dr. McLean, who is attending pediatrician to the New York Orthopedic Dispensary and Hospital, and chief of clinic in the Babies' Hospital, evidences an intimate acquaintance with the special problems of the children's hospital, but we are calling attention to his paper here especially because of the grasp it displays on the broad principles of hospital efficiency, particularly on the side of the human values involved.

The time has gone by when the success of a hospital was measured solely by its efficiency as an autonomous, detached machine. We appreciate now that the true hospital must be judged not by any narrow rule-of-thumb, but broadly by its efficiency as a community factor. Dr. McLean has emphasized this truth in his previous writings on the out-patient department, which, he believes, if properly conducted, has a greater community value in proportion to the cost of maintenance than the hospital proper. So far from the dispensary being "one of the best feeders to the hospital," in Dr. McLean's opinion, the reverse should be the case. Out-patient work should not be a "chore" for men too young and inexperienced to be trusted with really serious cases. The dispensary, under competent and conscientious supervision, should be used as a means of keeping patients out of the hospital. This is sound sense and sound community economics.

Another community need which Dr. McLean believes should be met by the standardized hospital is the demand for better diagnostic advice for people of small means. The very poor can have the services of the out-patient department, and the very rich can consult any number of expensive specialists, but the self-respecting wage-earner who cannot afford to pay high fees for the advice of specialists is thrown on the tender mercies of "the one-dollar practitioner, who too frequently seems to take it out on the patient for his small fee by giving treatment without examination and trusting to luck and the bottle of medicine for 'getting away with it' with the family." The pay dispensary or consultation clinic would not only solve this problem, Dr. McLean suggests, but also will have a salutary effect on the hit-or-miss practitioner himself, who will take more interest in his own cases when he begins to realize that he must do so under penalty of losing them.

Other sound common-sense recommendations are that the best room in the hospital be not kept sacred to the trustees, but devoted to the use of mothers who come to see their sick children, and that the attending physicians should give by turns an hour a day to answering the questions of anxious parents. It is the right of the parent to receive intelligent and trustworthy information in regard to a child whose condition is the subject of anxiety, and physicians in private practice recognize that it is their duty to relieve the strain on the minds of the parents by giving such information. The blank, impersonal way in which the hospital at present meets (or rather does not meet) this natural human need with a few stereotyped meaningless phrases is one of the reasons why parents are reluctant to place their children in the hospital.

We might continue indefinitely calling attention to the excellent ideas and sound practical sense shown in this paper, but we have said enough, we hope, to prove that not pediatricians alone but other hospital people cannot afford to pass by this important contribution without giving it careful reading and study.

The Standardization Article This Month

We regret that we are unable to present in this issue the regular installment of Dr. Hornsby's series of articles on the standardization of hospitals. Dr. Hornsby's work in the inspection of cantonment hospitals for the government has absorbed all his time and left him no opportunity to write for publication, although we are able to offer an article by him on the Mayo Clinic, written some time ago. It is hoped that he will soon be able to complete the series.

Those who have been following Dr. Hornsby's articles will find compensation for the omission of this month's installment in the very comprehensive and excellently worked out article by Dr. Stafford McLean, chief of clinic of the Babies' Hospital, New York, on the proper standards for a children's hospital, published on another page. This is an appropriate time to announce that we have in prospect a very interesting and important series of papers on the various special classes of institutions, by men engaged in these respective divisions of institutional work. Among these are: an article on the teaching standards to be expected of semipublic hospitals, by Dr. J. M. Baldy, president of the Bureau of Medical Education and Licensure of Pennsylvania, who has done such notable work in raising the standards of the semipublic hospitals of that state; one on the proper standards for institutional care of epileptics, by Dr. William T. Shanahan, medical superintendent of Craig Colony for Epileptics at Sonyea, N. Y.; two on the standards for hospitals for the insane, by Dr. William C. Sandy, assistant superintendent of the Connecticut Hospital for the Insane, and Mr. A. L. Bowen, superintendent of charities for the State of Illinois, respectively; one on the standards for institutions for the feeble-minded, by Dr. Walter E. Fernald, superintendent of the Massachusetts School for the Feeble-Minded; and one on the standards for prisons, by Mr. John L. Whitman, superintendent of prisons for the State of Illinois. Other subjects will be taken up by authors to be announced later. This will prove, we are confident, an exceedingly valuable series.

Volunteer Workers in the Out-Patient Department

In a previous editorial on "An Administrative Hospital Economy" we have discussed the place of volunteer workers within the hospital. We are also publishing on another page a very encouraging report from Dr. Charles Hendee Smith on the successful employment of volunteers in the outpatient department of the children's medical division of Bellevue Hospital. Here, it seems, volunteers have been found very useful in relieving the physicians of clerical work in the taking of histories, filing and getting out charts, making notes, etc., as well as in social service work. We shall hope to hear from other institutions that have tried out the value of the volunteer. Certainly, now is the time to put to the test this method of turning to account the public spirit and devotion of lay people.

CLEANSING OF UTENSILS USED IN PUBLIC EATING PLACES, ETC.

Progressive Action Taken by the Department of Food and Drugs in Tennessee—Need of Similar Action Elsewhere.

Investigation carried on by the Department of Food and Drugs of the State of Tennessee established the fact that the careless cleansing of glasses, cups, and dishes, especially at soda fountains, was likely to be in many cases a means of communicating disease. The washing of glasses at soda fountains was a mere form in many establishments. The department received numerous complaints that soda was served in glasses which had been so inadequately washed that the odor of cigarettes, left there by a previous patron, could be plainly distinguished when the glass was used by another. As odors were thus left, it might easily be that the germs of contagious diseases would likewise be transferred.

In the latter part of 1917, therefore, Mr. H. L. Eskew, commissioner of food and drugs, promulgated a ruling requiring that all glasses, dishes, spoons, and implements, such as knives, forks, etc., and all receptacles used in serving food, each time used by a customer, before use by another should be thoroughly cleaned by some process involving immersion in clean boiling water for not less than five minutes, or treatment with live steam or dry heat, or by some other process recognized as being equally effective as the foregoing. If live steam is used, at least 10 pounds' pressure must be maintained for at least fifteen minutes, and, if dry heat is employed, a temperature of 356° F. must be kept up for at least one hour.

It is said that hearty cooperation has been obtained throughout the state, and that improvement has been noticeable, many dealers having voluntarily informed the department that the system adopted had been a great improvement from the health and economic points of view.

There is no doubt that similar regulations are greatly needed in a great many parts of the United States. It is particularly interesting and gratifying to note that this forward step has been taken in a Southern state.

Reports on Toxicity of Arsphenamine

The director of the Hygienic Laboratory, Dr. G. W. McCoy, requests, in view of reports of untoward results from the use of arsphenamine and neo-arsphenamine, that samples of any lots of these drugs which have shown undue toxicity be forwarded to the Hygienic Laboratory for examination. In sending these samples it should be ascertained that the lot number is the same as that of the ampules used on patients. The samples sent should, if possible, be accompanied by a brief note stating the approximate body weight and age of the patient, the dose and dilution of the drug given, the symptoms and result—that is, whether fatal or not.

By the will of the late Ludwig Dreyfus, formerly a member of the banking firm of Goldman, Sachs & Co., New York, $131,500 is bequeathed to New York hospitals, the hospitals to receive the money at the death of Mrs. Rebecca Ludwig. The Mt. Sinai Hospital will receive $37,500; the Montefiore Home, Hospital & Sanitarium, $37,000; the Hebrew Orphan Asylum, $27,500; the Home for Aged and Infirm Hebrews, $17,000, and the Beth Israel Hospital, $12,500.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

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The Visiting Teacher*

By HELEN L. REDFERN, R.N.

There is a cry coming from the superintendents of the training schools in the small hospitals, asking how they are to meet the requirements of the curriculum which they are expected today to give to their pupils. With almost one accord they say:

"We are too busy with administration to take any large part in the teaching; our assistants and head nurses are too busy with the practical instruction; we cannot call upon the physicians except to a limited extent, for they are overworked with their special duties, particularly since the general exodus to Europe. We cannot afford to have a resident instructor, even if she were available; high-school teachers are a possible solution to the problem, but they cannot apply their subject matter to nursing problems; the highly desirable central school is still a dream. How shall we give our pupils proper instruction?"

At the present time the answer to this question seems to be the visiting teacher. She can supply this need until the advent of the happy day when our ideal central school is realized.

Of course, every hospital hopes some day to have a resident instructor to teach the classes in theory, but, because this position has been so recently established and calls for definite preparation as a teacher in addition to a nurse's training, there are comparatively few nurses who are qualified to do this particular work. It is alleged, moreover, that a number of fully qualified instructors are on duty abroad, thus depleting the limited number that are ordinarily available. This is not so much the reason as that the resident instructor's function is so little understood in the ordinary hospital. She is given so much routine work in addition to her already crowded hours of teaching that few are willing to spend the time and money to prepare themselves for such arduous labors. Many consider the resident instructor's work relatively unimportant compared with that of the other members of the staff. That she teaches but twenty hours of actual class-room work a week apparently gives her much free time. It is forgotten how many hours are spent correcting written quizzes, examination papers, and notebooks. So long as these conditions exist and the salaries are so low, few nurses will be attracted to this field.

The problem of the visiting instructor is quite unlike that of the resident instructor; she is responsible to the hospital for certain hours of teaching only. Consequently her free time is her own and if she uses it intelligently she is not unduly fatigued. At any rate, she does not carry the routine burdens of the hospital, but instead should bring to her classes vigor and fresh enthusiasm.

The visiting teacher is of great financial assistance. By giving three or four hours' instruction a week during the usual school year, the essential theoretical courses can be covered and the expense to the hospital limited to approximately $400. Moreover, the pupils in the school are benefited by the instruction of one who has especially prepared herself to be a teacher of nurses. How else can the small school afford such instruction? Certainly no resident instructor of any standing can be procured at the above-named price even if room and board were given in addition.

The subjects assigned to the visiting instructor are anatomy and physiology, chemistry, bacteriology, materia medica, hygiene, municipal sanitation, and the history of nursing, although this last subject is often made a basis for teaching ethics and many superintendents prefer to give this instruction themselves. It seems inadvisable for the visiting teacher to attempt to teach the courses in medical and surgical nursing. Because she lives outside the hospital, she is not cognizant of the special methods each institution emphasizes in regard to the treatment of medical and surgical diseases.

The following outline is submitted as a possible working plan, subject to such changes as will meet the varying needs of different hospitals.

The course in anatomy and physiology requires thirty-two hours, and may be made much more interesting if organs of animals which can be dissected are used for demonstration. The teacher may make her own charts and thus illustrate important points which cannot be illustrated in any other way.

A very elementary course in chemistry requires ten lessons and six laboratory periods. The aim is to give the pupils a working knowledge of the chemical reactions necessary to an intelligent understanding of other subjects in the curriculum. The equipment for a class of twelve cannot be obtained for much less than $50.

Bacteriology requires sixteen hours and includes the study of the growth of molds, yeasts, and the common species of bacteria. The aim of this course is to lay emphasis on (1) the relation of bacteriology to the pupil's practical work and her protection; (2) its application to public hygiene and sanitation.

The course in materia medica requires sixteen hours and should follow an elementary course in solutions. It includes the study of the most important drugs and their effect upon the different systems of the body. This course can be made very much more interesting by showing as far as possible the drugs in their crude as well as their medicinal forms.

The course in hygiene requires eight hours and deals more particularly with personal hygiene, the study of means by which health and efficiency are improved and conserved, and the importance of the nurse's work in prophylaxis.

The course in muncipal sanitation requires eight hours. The care of the water supply, food supply, and milk supply, and the disposition of garbage and sewage are discussed. The demand for this is increasing each year, for the state boards of examiners are beginning to ask many questions on this subject, and the schools must include it in their curriculums in order to measure up to the registration standards.

The course in the history of nursing should give the pupils the historical background of their profession and a knowledge of individuals who have done much in the

*An interesting paper by Miss Katherine Ink on the personal experiences of a visiting teacher was presented in this department of THE MODERN HOSPITAL in January of this year (p. 51) under the title, "The Teaching Problem in the Small School."

nursing field. It should also give a working knowledge of the problems which confront the profession today, the rapid extension of the nursing fields during the last twenty years, and the growth and development of nursing organizations.

It is hard to determine how many hospitals a visiting instructor can serve, for this depends on three important factors: (1) distance of the hospitals from the center; (2) their accessibility; (3) the number of hours desired. However, it seems reasonably safe to figure that a visiting teacher can give the necessary theoretical instruction in five schools; this allows her to give three hours a week to each one during the academic year of thirty-two weeks but does not allow extra time for examinations.

One hour a week during the eight months is given to anatomy and physiology (thirty-two hours); the other two subjects taught with it the first half year are chemistry (sixteen hours) and bacteriology (sixteen hours), all these subjects being given to first-year pupils. The course planned for the juniors the second half of the first year is materia medica (sixteen hours) and municipal sanitation (eight hours). The first-year pupils also finish their course in anatomy and physiology and in connection with it study personal hygiene. The last subject mentioned if given at this time affords a good opportunity for the review of anatomy and physiology.

The following outline shows how the hours are arranged:

	FIRST HALF YEAR	
A. M.—11-12	P. M.—1:30-2:30	P. M.—2:30-3:30
Anatomy and physiology 16 hours 1st year pupils	Chemistry 16 hours 1st year pupils	Bacteriology 16 hours 1st year pupils
	SECOND HALF YEAR	
A. M.—11-12	P. M. 1:30-2:30	P. M.—2:30-3:30
Anatomy and physiology 16 hours	Hygiene 8 hours 1st year pupils Municipal sanitation 8 hours Juniors	Materia Medica 16 hours Juniors

The history of nursing has not been included in this outline, for reasons already stated. It may be given any ten weeks during the year when most convenient to the superintendent. This would total four hours' teaching a week in each school for a period of ten weeks.

According to the above-described plan, the visiting instructor, if teaching in five schools, has fifteen hours a week plus the hours which may be assigned for the history of nursing. She should not attempt to teach more than fifteen hours a week regularly, as she must allow much time for going to and from the schools, and twenty hours a week is considered a maximum requirement for a resident instructor who does not have to consider time spent in traveling.

Visiting instructors are more often called upon to teach one or two hours in nine or ten schools. It is easy to realize that a teacher can serve a smaller number of schools to better advantage, for the time spent in traveling is decreased and the physical wear and tear lessened. It would seem unwise for a teacher to attempt to serve hospitals that are more than twenty-five miles from the center where she is stationed; even at this distance they must be fairly accessible, otherwise too much time is lost en route.

A visiting teacher capable of conducting such a series of classes would obviously help the overburdened superintendent to solve her teaching problems, and in some cases furnish welcome relief to physicians whose most urgent duties make it impossible for them to keep their teaching appointments.

If the superintendent in the small hospital employs a visiting teacher it is possible for her to give her pupils a complete theoretical program comparable to that of a large school employing a resident instructor, and to advertise such a program. This is an advantage, for today the wide-awake young woman with the necessary education does not enter a training school without first finding out what advantages the school has to offer. The addition of so much theoretical work to the school curriculum enables the superintendent to hold out greater inducements to candidates to enter her school.

But all is not sunshine for the visting instructor. Because she has prepared herself to teach nurses, she is expected to be successful with all kinds, regardless of their preparatory education and mental caliber. If superintendents wish the best results from the theoretical teaching they must be careful whom they choose as candidates for their schools. Preferably, the candidate should be a high-school graduate; if this seems impossible, it is a standard toward which we should strive.

Just here a word should be added concerning the instructor's attitude. In spite of her desire to enhance the value of theoretical instruction, she should not lose sight of the fact that hospitals exist primarily for the care of patients, and secondarily for the education of various groups of students, including nurses. She must keep in mind also that her pupils usually come to class physically tired and therefore cannot be expected to assimilate the instruction offered with the same readiness as pupils more physically fit.

Some of our friends argue that the most patriotic service nurses can render at the present time is to serve with the army either in cantonment hospitals or abroad. A wider vision would perhaps enable them to see greater possibilities in training new recruits to meet the larger nursing problems which are fast crowding upon us. Towards this end the visiting instructor may render the greatest service by teaching large groups of pupils in several hospitals.

Finally, it should be the aim of the visiting teacher to devote the largest part of her time to the small hospitals, as they have the greatest difficulty in measuring up to the desired standards. Superintendents are occasionally perplexed as to how many hours to give to the different courses in order to cover the required curriculum. In this case the visiting teacher can often offer helpful suggestions.

While I am convinced that the real function of the visiting instructor is helping the small hospitals, yet there are times when the superintendent of a large training school may call upon a visting instructor (1) to give courses which the resident instructor has not time for or (2) to serve as a substitute during absence or illness of a resident instructor.

Visiting teaching has been done in New York, in Boston and in a small way elsewhere. There are a great many possibilities if one enters this work with a large amount of enthusiasm, and our hope is that as years pass this work may find a larger measure of usefulness and service in an increasing number of communities.

The Annual Convention of the National Organizations of Nurses.

The annual convention of the American Nurses' Association, the National League for Nursing Education, and the National Organization of Public Health Nursing will be held in Cleveland, Ohio, from May 7 to 11, inclusive. The present situation with its heavy demands in every

direction upon the nursing profession made the advisability of holding the convention this year open to grave question. It was, however, almost immediately evident that these very demands, with the perplexing problems involved, made this opportunity of gathering together as many members in home service as possible, one not to be lost and it is hoped that nurses from every field will make an unusual effort to attend the conference.

The program is full of interest and relates almost entirely to the war situation. On the afternoon of Tuesday the delegates of the American Nurses' Association will meet and discuss both the question of the nursing population of the United States as revealed through the census and—a no less important matter—the progress of the reorganization necessitated by the membership by-laws adopted last year whereby all members will hereafter come into the American Nurses' Association through the state organizations only. At no period of the existence of the nursing profession could this step have been more timely, strengthening as it does the state interest and providing a system whereby the entire nursing population of the state could be most easily and completely reached through state and local organization. Hereafter the meetings will be biannual, allowing in the intervening year for the state associations to extend their meetings over a longer period than has heretofore been possible with the absences necessitated by the attendance at the convention of the national organizations. On Tuesday afternoon also industrial nursing will be discussed by the National Organization of Public Health Nursing.

At the evening and opening session there will be an address of welcome from a Cleveland citizen with the usual responses from three presidents. The program committee has been so fortunate as to secure as the speaker of the evening Lieutenant-Colonel Winford H. Smith, now in the surgeon general's office, who will speak of the nursing profession in its relation to the war.

Wednesday morning will be given over to the legislative, private duty, and mental hygiene sections of the American Nurses' Association, and a most interesting program on "Public Health Nursing in War Zones," the first paper by Miss Lent dealing with the public health nursing service in cantonment zones, and the second, the reconstructive work of nurses abroad. At a joint session in the afternoon with Miss Mary Beard presiding, the subject under discussion will be the reconstruction hospitals. The government program of reconstruction and women's part in the reconstruction program will be presented. On Wednesday evening at the joint session, Miss Clayton, president of the National League of Nursing Education, presiding, under the topic, "How the Public and the Nursing Profession Are Combining to Supply Nursing Needs During and After the War," the papers will deal with the "Approach from the Layman's Standpoint and as a War Emergency," the "Approach from the Standpoint of the Educator Looking Towards the Future," and "Interpreting the Nursing Profession in its Attitude Toward the War and Toward Future Demands," the latter by Miss M. Adelaide Nutting of Teachers' College, Columbia University.

On Thursday morning the topic will be "The Readjustment of the Curriculum to Meet War Needs and its Effect upon the Hospitals," with the following papers: "Presentation of the Problem," "Special Preliminary Courses," "The Use of the Third Year," "The Attendant," and "The Red Cross Aid Versus the Short-Term Course."

On Thursday afternoon the following papers dealing with the child welfare problem will be given: "State Program of Child Conservation," by Miss Gertrude W. Peabody; "Community Baby-Saving Program," by Miss Zoe LaForge; "Maternity Program," by Miss Stevens.

The subject presented at the joint session in the evening will be "Nursing as it Relates to the War," papers being read by Miss Dora E. Thompson, superintendent Army Nurse Corps, Mrs. Lenah Higby, superintendent of navy nurses, Miss Jane A. Delano, chairman Red Cross Committee on Nursing, Miss M. Adelaide Nutting, chairman standing committee on nursing, General Medical Board, Council of National Defense, Miss Mary Beard, chairman subcommittee on public health nursing, Miss Lillian D. Wald, chairman subcommittee on home nursing.

On the following afternoon rural nursing will be discussed, a paper being given on the "Circuit Plan of Rural Nursing, and the Nurse Midwife in Isolated Districts." The joint session on Friday evening will be one of importance, dealing as it does with the conservation problem. The following subjects will be presented: "Venereal Disease," by Major W. F. Snow, director, Division of Venereal Diseases, War Department, or his representative; "Child Welfare," by Miss Julia C. Lathrop, chief of the Federal Children's Bureau; "Food Conservation," by Mr. Everett Colby, representative of the United States Food Administration; "Relation of Nurse to these Conservation Programs," by Miss Fannie Brooks.

Saturday morning there will be a brief business session only. The convention headquarters will be at the Hotel Hollenden. A more detailed program and information concerning the hotel accommodations, railroads, etc., will appear in the *American Journal of Nursing*.

INCREASING THE PUBLIC HEALTH NURSING SERVICE

War Council of American Red Cross Gives $25,000 for Education of Student Nurses

With the object of providing trained nurses for the town and country nursing service of the Red Cross, the war council of the American Red Cross has appropriated $25,000 as a fund to be administered by the Henry Street Settlement, of New York, for the education of student nurses. Assistance in supporting the work of the settlement in the training of nurses for public health service was requested of the Red Cross by Miss Lillian D. Wald, head resident of the settlement.

In return for this assistance the settlement has agreed that a certain number of trained pupils each year shall enter the town and country nursing service of the Red Cross.—Red Cross Bulletin.

During the last few months, several changes have been made in the staff of the Bronson Hospital, of Kalamazoo, Mich. The surgical supervisor, Miss Mina J. Weber, who has served in that capacity for the last six years, has entered Red Cross work and is now located at the Camp Custer Base Hospital. Miss Margaret Bivens, R. N., formerly with the Ohio Valley General Hospital, Wheeling, W. Va., has been appointed to succeed her. Miss Ruth Brenneman, of the Bellevue Hospital, New York City, has been employed to take the place of Miss Alice Carey Worman, for two years dietitian of the institution, who has accepted the post of dietitian at the Kalamazoo State Hospital, while Miss Ruth Condit, of the Wesley Hospital, Chicago, will fill the vacancy caused by the resignation of the former night superintendent, Miss Edna Panuska.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES.
Dietitian of Lakeside Hospital, Cleveland, Ohio.
Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, O.

Economical Preparation and Serving of Food

By LULU GRAVES, Dietitian, Lakeside Hospital, Cleveland.

So much is being said and written of late about food in all its forms, high cost of living and economy in its various phases that I doubt if there be anything new to say, either from the viewpoint of the nutrition expert, who has spent much time, energy, and thought in getting at the fundamentals of the subject, or from the standpoint of the popular writer, who apparently has no need for fundamentals. I should like to reverse my subject and discuss the last part first—the saving of food.

The first and one of the most important steps, if not the most important, in the saving of food is to make everyone concerned realize the importance of saving. My experience has been that as a general thing little respect is shown by people in institutions for small quantities of food. Nurses in charge of wards requisition more than they need of milk, butter, eggs, etc. If a quart of milk or half a loaf of bread or one pound of crackers is left in the supply cupboard from the previous day, it is not cared for or taken into account when making up the day's order. By the time this quantity is multiplied by ten or twelve, or whatever number of serving rooms the house may have, then multiplied by thirty days in a month, it may and does aggregate no small amount.

Another apparently insignificant detail, but one which is not at all insignificant, is the serving of more food on the plate than will be eaten. This cannot be absolutely determined, of course, but if the one who is serving is at all interested she soon learns about how much will be eaten and serves accordingly. The point to be gained here is to awaken the interest in the caring for food in the one who does the serving. Far better to have it understood that a second serving may be had if desired than to serve too generously and then have a little left on each plate. The old American tradition to put an abundance of food on the table for decoration and as an evidence of community standing no longer should be recognized. Furthermore, large servings of food are repulsive to many people.

When we have learned how much food is needed in the several serving rooms, it is important that proper estimates be made in the kitchen when the food is prepared. It is no economy to prepare much more food for the private room patients, or any other particular group, than will be required, with the idea that it can be utilized for the employees or someone else. Invariably leftovers of whatever sort are given to a group which is normally served less expensive foods than the food from which the portions were left over. This will necessarily occur to some extent, as it is impossible to know exact conditions in the various parts of the house from meal to meal, but it should be controlled.

Enlightening and educating the kitchen employees is, I have found, a most profitable thing to do. The cooks at Lakeside are told each month the total of the bills for meat, vegetables, milk, eggs—in fact of everything they use—and comparisons are made with previous months. A most effective example of the value of this was shown when they were given these amounts for the first time about two years ago. Trying to impress upon the cooks the need of taking care of meat had been a most discouraging task, but when they were told that the meat bill for this particular month was $2500, one of them said, "If I had that I could buy a house." They were asounded.

The next day one of them brought to me some pans containing small portions of different kinds of meat which had been left in the carving for the several groups in the house, and asked what could be done with them. Every bit of it could be used to advantage for someone. When the plans for utilizing it were finished, he said, "We used to throw all that away, but never again."

This same spirit now prevails throughout the kitchen and it would be safe to say that no one of our regular kitchen force is extravagant with hospital supplies. Saving food is absolutely impossible without the interest and cooperation of all who have anything to do with its preparing and serving. Having a prescribed allowance of standard supplies helps very much; for instance, one pint of milk per patient is a good daily average. One pint equals three glasses. A few patients in the ward may wish more but there are always an equal number that will not wish so much. One quart per patient is a generous allowance for children's wards. One pound of butter will make forty average-sized servings. Know how many slices of bread may be obtained from the loaf being used; determine how much cream and sugar you can afford for each patient. The knowing of the number of patients in the ward enables one to estimate pretty closely on all staple supplies, and if there is waste, to locate it.

In the economical preparation of food we must distinguish between theoretical economy and practical economy when there is a difference, as there sometimes is. For instance, we are being told always to cook potatoes in their skins in order to retain mineral salts and other substances, and that there will be less waste in paring after cooking. This is all very well when only a few are being prepared; when a great many potatoes are being cooked, they can be pared in a machine before cooking with no more waste than there would be in cooking them, allowing to cool and being pared by the kind of people we have to put in our vegetablerooms today, then reheating for serving.

It is not wise to economize on equipment. It never pays to have poor stoves or poor ovens. In the course of a year enough food can be and usually is spoiled or in some way made unfit for use to counterbalance the cost of a good stove. There is no economy in trying to prepare food with too few utensils, utensils which are too small, or in bad condition. We owe it to the people who are ill and to those who are living sedentary lives, as all hospital people do, more or less, not to subject them to the dangers of food improperly cooked or cooked in copper kettles not properly tinned, or food that has been scorched in tin vessels. My cook said to me not long since, "I was just thinking, we haven't burned anything we have cooked since we got our aluminum kettles and we used to have to throw away burned food every day." We had been using aluminum kettles about one and a half years at that time.

In the small hospital with very limited means, this is just as important as in the large institution. The satisfaction of everybody in the house, both sick and well, depends a great deal upon the kind of food he gets. No other department in the house reaches every individual as does the culinary department, and in no other department is skill and judgment more needed.

It has been very truly said that just so long as any group of people, whether they are in hospitals, college dormitories, boarding houses or whatever form of living, is being fed without any responsibility or effort at understanding on their part, just so long will we have people criticizing their food. For this reason the question of economy in the hospital service is a much more serious problem than it is in the home.

During the past year, labor has been a very great problem. The class of people we have been compelled to employ for such work as cleaning vegetables and washing dishes has added greatly to the responsibilities of the one who has charge of the serving of food. Those hospitals which have a "faithful few" on their kitchen force have been fortunate indeed, but it has been rather hard on the "faithful few." This is another strong argument for the mechanical devices in every possible place. Machinery may get out of order, but it can be repaired and will be ready for service again. This cannot be said of the men and maids who are with us one day and gone the next.

Vegetables may be pared and cut for soups, salads, etc., meat chopped for hash, salads, and jellied combinations—celery cut, and numerous other things done by one and the same machine. Dough-mixing machines have attachments for straining fruits such as apple sauce, cranberries, and such fruits as might otherwise need to be pared or seeded. Other attachments whip cream, beat eggs, mash vegetables for purees, and are of great help if jam or jellies are made. All of these processes may be carried on in much less time than they could possibly be done by hand.

I am sure the majority of superintendents of hospitals are too busy to follow the details of any one department, but nevertheless I am taking the liberty of mentioning a few concrete examples of economy in preparation of food which may be of interest at this time. Very palatable dishes can be made of meat and vegetables, seasoned and baked with sauces or gravies.

Rice is a suitable alternative for potato, though it can scarcely be substituted entirely because people tire of it readily. The comparison between potato and rice is favorable to rice even when the common white rice is used. There are three kinds of rice, brown, milled head, and coated. Brown is the unmilled grain; milled or head rice is the product of milling; coated rice is the milled rice that has been treated with talc and glucose. Brown rice is much richer in fat and mineral salts, slightly richer in protein, and furnishes more calories in digestion. It should sell for less than the polished product. It has a characteristic nutty flavor which makes it less apt to pall on the appetite than the others. Every hospital serves chicken more or less. The giblets may be finely chopped added to a rich brown gravy and served on rice, making a highly nutritious and palatable dish for the light meal of the day. Rice baked with chopped meat and tomato or broth may be served the same way. A sauce of brown sugar or maple syrup served on steamed rice appeals to many who will not eat plain rice.

Macaroni may be used to advantage in place of potato. Macaroni is all edible, with no waste; one pound costs 10 cents, and when cooked yields 1660 calories; one pound of potato cooked yields 440 calories. The macaroni will also contain more protein and mineral matter. However, macaroni is an acid-forming food and potatoes are base-forming, so if macaroni is substituted for potato one should eat some fruit or vegetable to make enough base to balance the diet. This is frequently done by adding tomato to macaroni; cheese, bacon, peppers are added by Italians and thus a full meal is provided.

Macaroni is made from durum wheat. This wheat grows well in semi-arid climates; a larger demand for macaroni would mean that lands could be used for growing wheat which are not now used for that purpose. This is another illustration of economy in theory not corresponding with economy in practice, as a great number of people refuse to eat rice and macaroni. The prospects seem to indicate that it is going to be necessary to eat them.

These suggestions made are for ways of serving so as to take the place of both meat and vegetables. For this same use ham butts may be bought at a much lower price than ham for slicing, but the meat is equally good. These may be boiled, the ham minced and mixed with corn and baked. This combination is more generally liked than the rice and meat combination. Finely minced ham and corn moistened with a small amount of milk having a few bread crumbs mixed in it makes another palatable and comparatively economical casserole dish.

Kale and Swiss chard are good additions to our family of green vegetables, though they are not widely used. Swiss chard is particularly good, as the stalk may be used for a creamed vegetable in the same way as we use creamed celery, and the leaves may be used in the same way that we use other green vegetables.

If the water in which green vegetables are cooked is not served with the vegetable, it may be saved and used in flavoring soups.

Fruits and green vegetables may be comparatively expensive if we think of them only in terms of nutritive value, but they have decided value in the dietary because of the salts and vitamines they contain; these are necessary factors in the diet. They also furnish bulk in the form of fiber, skins, etc., which stimulate digestion. Fruit, jams, jellies, and marmalades may be used on bread instead of butter. Honey is high in food value and is also a laxative. Peanut butter is a good substitute for butter. There is no need to bore you with other specific examples; this is sufficient to illustrate the point that we must get out of the beaten path; ingenuity, skill, and judgment will be required to give our people well selected nourishing food with as little monotony as possible from the limited resources at our command.

Another important factor in making for economy in this department is to have the diet kitchen and main kitchen under one supervision. In that way, there is no duplicating of store rooms or cupboards and such close dovetailing of supplies may be practiced as to eliminate much waste. The small amounts left from serving the larger numbers in the main kitchen may be utilized in the diet kitchen for the diabetics, nephritics, or other patients being treated dietetically.

Food Conservation and Health

By THOMAS H. DICKINSON, of the National Food Administration, Washington, D. C.

Those Americans who are not able to leave their homes to take a part in the great war still have it within their power to render great service in the cause of the world's freedom.

As a feature of the waging of the war, Americans, in common with their European associates, are being asked

to adjust their patterns of living to war-time standards. This means that Americans must take from their own stocks sufficient food to supply those to whom we owe obligations and who have less food than we have.

This does not mean that Americans are to be asked to go hungry. Every principle of common sense and strategy demands the continued care of the people at home, of the sick, the infirm, and the young. It does mean that Americans are to be asked to interpret more carefully than ever before the amount necessary for the maintenance of stamina. Anything that exceeds the necessary supply, in waste or in superfluous consumption, must be discouraged.

The problem now facing the American people is to maintain under conditions of war the standards of health necessary for the increased stress of war-time conditions. This must be done according to the best dietetic practice of peace times, in sufficient quantity and of proper quality. What some Americans may have overlooked is that before the war they did not live by proper dietetic conditions but beyond them.

Everything remotely resembling waste must be eliminated from our markets and kitchens. Our stock of foodstuffs must be administered with rigid care. Where our people eat too much, they should be informed of this kindly and firmly. Where they can do so, they should be taught to use the more acceptable substitutes for the foods for which there is an overdemand. Anything less than this would be unpatriotic.

Of all foods, the critical requirement among the nations associated with us is for wheat, sugar, meats, and fats. How may these be provided for the Allies and still be conserved for ourselves? What program will best administer this saving and still be sufficiently flexible to serve all purposes and do injury to none? How can our national ration be modified without doing violence to the interests of the sick, the young, and the infirm? The Food Administration has been at some pains to study out a program of saving that would satisfy these requirements.

The first thing avoided was any hard-and-fast stipulation of requirements to be enforced alike on all in every condition. An aggregate saving of a certain amount is called for by the demands of our own soldiers in France and of the European Allies. Of wheat we are faced with a demand for 75,000,000 bushels before next harvest for the Allies, 15,000,000 bushels for Belgium and 10,000,000 bushels for Cuba and the neutrals. Europe is now calling upon us for 70,000,000 pounds of beef per month, as against pre-war average of 1,000,000 pounds a month, and 100,000,000 pounds of pork products per month as against half this export before the war. And the Allies are calling for 10 percent of our total normal consumption in sugar.

This extra demand upon America's food resources is being brought emphatically home to the minds of the people by appeals upon their patriotism, strengthened, where advisable, by legal enactments to enforce economy. But at the point at which the law touches the citizen there is left a flexibility which insures that the end may be gained with the least burden to the consumer. Two wheatless days (Monday and Wednesday), two porkless days (Tuesday and Saturday), and one meatless day (Tuesday) are designated. Aside from these recommendations as to particular days, liberty of choice is left for the wheatless and meatless meals in each day without stipulation from the Food Administration.

All the belligerent nations of Europe have now adopted a war bread. In this the United States has joined. As a rule two features appear in a war bread. The first deals with the milling ratio for wheat; the second deals with requirements for the combination of substitute flours and meals with the wheat flour. Both of these have to do with the utmost possible saving of wheat consistent with the healthfulness of the product.

Though the milling standards of the nations differ as to ratio of extraction and in water content, the United States is now on nearly the same milling standard for flour as Europe. According to the rules recently put into force, all wheat is milled at 74.5 percent extraction, American ratio, which is equivalent to 78 percent extraction, European ratio. The standard compels millers to produce one barrel of flour (196 pounds) from 264 pounds of wheat.

It is in the standards of admixture of flour with other cereals that the United States shows larger differences from the practice of the nations of Europe. Without exception all nations require that bread shall be made of a certain combination of wheat flour with one or another of the substitutes for wheat, corn, rye, barley, rice, or potato flour. As a rule this combination is made in Europe before purchase by the customer.

With the purpose of maintaining a flexibility in this respect, the United States has not gone so far as to mix the grains before purchase. Two sets of regulations have been worked out. The first applies to bakers, and requires that for every unit of wheat flour used in bakers' bread 20 percent of this amount shall be used of some other cereal. The baker is encouraged to use his own ingenuity in making the combination, and may include as much more substitute cereal as his experiments justify. The ratio of not more than 80 percent of wheat with not less than 20 percent of substitutes constitutes Victory Bread.

For the household a somewhat different system is used, and householders are encouraged to save a greater proportion of wheat than is called for from the bakers. In order to encourage the people to discover the excellent food values of other cereals than wheat, it has been provided that with very unit of wheat flour purchased by the householder an equal amount of other cereals shall be purchased.

Thus we find the United States asking nearly as much of its citizens as other countries, but in a democratic spirit leaving them a margin of option in the management of their saving. Care has been taken to insure the highest quality of flour and bread, and under the regulations exceptions may be made in the case of those who by a physician's prescription require pure white bread.

There is not an institution in America that cannot take to heart the words in President Wilson's proclamation of January 18, 1918:

"The maintenance of the health and strength of our own people is vitally necessary at this time, and there should be no dangerous restriction of the food supply; but the elimination of every sort of waste and the substitution of other commodities of which we have more abundant supplies for those which we need to save, will in no way impair the strength of our people and will enable us to meet one of the most pressing obligations of the war."

Members of American Dietetic Association

This list is being published to furnish names of members to prospective members, or applicants wanting recommendations for acceptance in the association.

Aylward, Emma B...1750 W. Congress street, Chicago
Benedict, Sarah.....Miami Valley Hospital, Dayton, O.
Blessman, Freda.....57 Casterton avenue, Akron, O.
Bradheref, Gladys O.University Hospital, Ann Arbor, Mich.
Brinsmade Ildah M..University Hospital, Ann Arbor, Mich.

Brinton, Besse E.....Lakeside Hospital, Cleveland, O.
Cooper, Lenna.....Battle Creek Sanitarium, Battle Creek, Mich.
Cunningham, Mary..
Dikeman, Phyllis I..Grant Hospital, Columbus, O.
Fenton, Theo.....1614 Grand avenue, Milwaukee, Wis., Food Conservation for City Council of Defense.
Foley, May.....State Hospital, Augusta, Me.
Geraghty, E. M.....Grace Hospital, New Haven, Conn.
Graves, Lulu G.....Lakeside Hospital, Cleveland, O.
Haueter, Ednah Mae.Eitel Hospital, Minneapolis, Minn.
Joseph, Blanche W..Field Dietitian, Social Service Dept. West Side Dispensary, Chicago
King, Corrine.....Battle Creek Sanitarium, Battle Creek, Mich.
Laird, A. L.....University of Toronto
Lyon, Mary B.....8 Prospect street, Ashtabula, O.
Mason, Harriet.....Home Economy Editor Ohio Farmer, Cleveland, O.
Mathews, Harriet....426 E. 51st street, Chicago
Millar, K. May.....St. Luke's Hospital, Cleveland, O.
Ochs, Harriet.....229 E. Huron street, Sheboygan, Wis.
Pedder, Jane.....520 Ivy street, Pittsburgh, Pa., Dietitian Western Pennsylvania Hospital.
Perry, Maude A.....368 N. Hamlin street, Chicago
Poole, H. M.....West Side Y. W. C. A., 50th street and 10th avenue, New York
Pratt, Mrs.....Westmoreland Hospital, Greenburg, Pa.
Rose, Lorena.....Kalamazoo State Hospital, Kalamazoo, Mich.
Ryley, V. M.....University of Toronto
Sawyer, Margaret....210 E. Davenport street, Iowa City, Ia.
Schreiber, Ruth.....Chariton, Ia.
Sell, Flora G.....917 Mulberry street, Scranton, Pa.
Stewart, Isabel L....509 S. Honore street, Chicago
Stout, Lucile .....Evanston Hospital, Evanston, Ill.
Smedley, Emma.....6 E. Front street, Media, Pa.
VanAken, Grace.....Homeopathic Hospital, Ann Arbor, Mich.
Wheeler, Ruth.....Woman's Building, Urbana, Ill.
Wood, Nellie.....M. E. Hospital, Omaha, Neb.
Michael, Rose.....4744 Prairie avenue, Chicago

Army Medical Corps Examinations

The Surgeon General of the Army announces that preliminary examinations for the appointment of first lieutenants in the Medical Corps, U. S. Army, are being held at numerous points throughout the United States, on the first Monday of each month.

Full information concerning the examination may be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation to report for examinations are that the applicant shall be a citizen of the United States, between 22 and 32 years of age, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, of good moral character and habits, and shall have had at least one year's post-graduate hospital internship.

The government cannot pay to applicants any portion of their expenses incurred in connection with their examination, and due consideration, therefore, will be given to localities from which applications are received in order to lessen such expense as much as possible. Chemistry and physics have been eliminated as subjects of examination.

Those applicants who successfully pass the examination are commissioned first lieutenants in the Medical Reserve Corps, and sent to either the Army Medical School in Washington, or to a training camp for a course of instruction, covering a period of approximately three months, during which time they draw the pay and allowances of their grade. If, at the close of their instruction, they pass the final examination, and are favorably recommended, they are commisisoned first lieutenants in the medical corps of the regular army.

The medical corps consists of commissioned officers in number approximately equal to seven for every one thousand of the total enlisted strength of the regular army authorized from time to time by law, proportionally distributed among the graded and in the ratios as follows: colonels, 3.16 percent; lieutenant colonels, 5.42 percent; majors, 23.7 percent; captains and first lieutenants, 67.72 percent. Promotion to the grades of major, lieutenant colonel, and colonel is by seniority, subject to examination.

The Surgeon General, who, under the permanent law, has the rank of brigadier general and is the chief of the Medical Department, is selected from among the officers of the medical corps not below the grade of lieutenant colonel.

PAY AND EMOLUMENTS

To each rank is attached a fixed annual salary, which is received in monthly payments and this is increased by 10 percent for each period of five years' service until a maximum of 40 percent is reached. A first lieutenant receives $2,000 per annum, or $166.66 monthly. At the end of five years (during the period of the war, at the end of one year) he is promoted to captain, subject to examination, and receives $2,400 a year, with an increase of 10 percent after five years' service, making $2,640, or $220 per month. After ten years' service the pay would be $2,880 annually, or $240 per month. The pay attached to the rank of major is $3,000 a year, which, with 10 per cent added for each five years' service, becomes $3,600 after ten years' service, $3,900 after fifteen years' service, and $4,000 after twenty years. The maximum monthly pay of lieutenant colonel, colonel, and brigadier general is $375, $418.66, and $500, respectively. Officers, in addition to their pay proper, are furnished with allowance of quarters according to rank, either in kind, or, where no suitable government building is available, by commutation; fuel and light therefor are also provided. When traveling on duty an officer receives mileage for the distance traveled, including the travel performed in joining first station after appointment as first lieutenant. On change of station he is entitled to transportation for professional books and papers and a reasonable amount of baggage at government expense. Groceries and other articles may be purchased from the commissary at about wholesale cost price. Instruments and appliances are furnished for the use of medical officers in the performance of their duties. Well-selected professional libraries are supplied to each hospital, and standard modern publications on medical and surgical subjects, including medical journals, are added from time to time. At each military post there is also a laboratory, and medical officers are encouraged to carry on any special line of professional study which appeals to them and which fits them for their duties as medical officers.

Officers of the medical corps are entitled to the privilege of retirement after forty years' service, or at any time for disability incurred in the line of duty. On attaining the age of 64, they are placed on the retired list by operation of law. Retired officers receive three-fourths of the pay of their grade (salary and increase) at the time of retirement.

At the present time there are approximately seven hundred vacancies in the medical corps.

Dr. Goldwater Resigns Chairmanship of Mayor's Committee on Hospital and Medical Facilities

Dr. S. S. Goldwater has been compelled by pressure of other duties to resign the chairmanship of the New York Mayor's Committee on Hospital and Medical Facilities. Mayor Hylan, acting on Dr. Goldwater's suggestion, has asked Mr. Coler to assume the chairmanship. In his letter accepting Dr. Goldwater's resignation the mayor said:

"I regret that you feel unable to continue as chairman of the Mayor's Committee on Hospital and Medical Facilities. . . . You may be sure the city appreciated the self-sacrificing service you have given to this work since the beginning of the war. I am pleased that you are willing to continue your membership in the committee, and shall count on your hearty cooperation."

INDUSTRIAL REHABILITATION OF DISABLED SOLDIERS AND SAILORS

Conducted by ELIZABETH G. UPHAM.
Director Art Department Milwaukee-Downer College.

Contributions Toward the Rehabilitation of the Disabled Soldiers and Sailors of the United States

Those who are following the preparations for the rehabilitation of our disabled soldiers and sailors will be interested to know that on January 28, 1918, the Senate of the United States passed the following resolution:

"RESOLVED, That the Federal Board of Vocational Education be directed to furnish to the Senate such information as it may have or can readily obtain on the rehabilitation and vocational reeducation of crippled soldiers and sailors."

In reply to this resolution the Federal Board for Vocational Education submitted two documents, which are published as Senate Documents 166 and 167 and reprinted as Bulletins 5 and 6 of the board.

It had become apparent that, if the United States were to avoid the mistakes made by some of the other countries in their first attempts to solve this great problem, serious research and study of the entire problem of rehabilitation must be begun at once. It was anticipated that the studies which should thus be made would be not only of service in the discharge of national obligations to those who have risked all, but also of lasting value to the victims of accidents and the industrially handicapped for all time.

Senate Document 166 or Bulletin 5 of the Federal Board for Vocational Education, deals with "The Vocational Rehabilitation of Disabled Soldiers and Sailors." It presents the magnitude of the problem, and shows the need of vocational education to insure the man's economic independence to avoid vocational degeneration, to prevent exploitation of the war victims, to conserve trade skill, to insure national rehabilitation, to adjust the supply of labor to demand and to develop new vocational efficiency. The responsibility of the nation for returning its men to industry, from which they were taken, is assumed, as well as compensation in the way of vocational opportunities for those who have engaged in the hazardous occupation of war. The document suggests the administrative problems of financing, control, military discipline, and cooperation with states and private agencies. Coordination and centralization of authority is most necessary in the work of rehabilitation, as has been revealed in the experiences of the Allies, which have been carefully studied and analyzed. The fundamental principles thus found form the basis for a suggested program of Federal legislation and national action.

Senate Document 167, or Bulletin 6 of the Federal Board of Vocational Education, is entitled "Training of Teachers for Occupational Therapy for the Rehabilitation of Disabled Soldiers and Sailors." It attempts to cover that most critical stage in rehabilitation, convalescence, and to show the importance of occupational therapy at this time and its relation to the future economic welfare of the patients. In the present moment of preparation, the great shortage of trained occupational therapeutists confronts this country. It is estimated that for every million men over seas, a minimum of twelve hundred teachers will be needed. What the qualifications of these teachers must be in view of the experience of the belligerent countries, and how they may be trained are presented in Part I.

The official summary of this emergency program is as follows:

"The returned disabled men are divided into four classes: (1) those who are permanently invalided; (2) those who are able to work, but cannot engage in competitive occupations; (3) those who must learn new occupations in the light of their handicaps; (4) those who are able to return to their former occupations. About 80 percent of all the disabled fall into the fourth group, and about 20 percent into the third group. The first two groups are relatively small.

"For Group 1 the treatment prescribed is 'invalid occupations,' which are occupations that help pass the time and save the patient from brooding. For Group 2, those who will in all probability be unable to compete in any line of work, simple occupations are prescribed to be carried on under the guidance of occupational therapeutists. Such occupations as wicker furniture-making, chair-caning, toy-making and semitrades, will be taught these men.

"For the 20 percent who must learn new occupations a more elaborate course of rehabilitation is suggested. This will include simple occupations such as are taught to the men of the second group, followed by courses in general education wherever necessary, and followed in turn by prevocational education, that is to say, elementary vocational education; and, lastly, by vocational education in whatever line is best adapted to the qualifications and handicap of the man.

"A similar curriculum is proposed for the 80 percent who will probably be able to return to their old occupations. Under the lead of the occupational therapeutist the patient will be gradually taught simple occupations, his general education will be 'brushed up' and the deficiences supplied, and he will be reeducated so as to resume his former trade in spite of his handicap.

"An outline of an emergency course covering eight weeks for the training of teachers to handle all four groups of disabled men is given. It is expected that a fraction of the disabled men themselves will serve as instructors. Nurses and teachers of arts and crafts will be available for the invalid occupation work; trained and selected women of education with previous experience in the arts, crafts, and the 'semitrades' will be drawn on to teach simple occupations to Group 2. In addition to these, there will be need in Groups 3 and 4 of vocational teachers, preferably men, and men and women teachers, in general education subjects, instructors in manual training, commercial subjects, mechanical drawing, drafting, etc. Teachers of each group should have had practical experience in hospitals or institutions, and it is recommended that teachers in Groups 3 and 4 should have experience in the same line of work in the military hospitals of Canada."

The seriousness of this service, the high-grade persons who must engage in it, the responsibility they must assume, the intensive training they will have to undergo, and the great demands which must be made upon them cannot be too strongly emphasized. As Mr. L. G. Brock in telling of the importance of adequate teachers for the convalescent hospitals of France has said:

"It follows, of course, that if great demands are to be made on the instructors they must be carefully selected and adequately paid. The best possible men [and women] must be secured without regard to cost, and those who fail to develop the requisite qualities must be vigorously weeded out."

Part II deals particularly with the medical problems involved in occupational therapy and the close cooperation which must exist between physician and occupational instructor.

"All delegates [at the Interallied Conference held in

Paris, March 8-12, 1917] were agreed on the necessity of having all physical training and treatment under strict medical supervision until such time as the patient is ready to be sent back to the army in some capacity or another, or, if judged unfit for military service, is ready to begin reeducation of a purely professional kind."

"Close collaboration between doctor and technical advisor is indispensable for complete reeducation; it is also indispensable for guiding the injured man and starting him on sound lines from the outset of reeducation."[1]

In order to establish that close cooperation between the physician and occupational therapeutist an intelligent knowledge of the mechanism of recovery through occupation must be known. The psychological and physiological functions of occupational therapy are studied, followed by the effect of occupational therapy upon war invalids suffering from war psychoses and neuroses, internal diseases, injuries, post-surgical treatment, and orthopedic surgery.

Social and economic aspects of occupational therapy are discussed in Part III. It is maintained that every dollar invested by the government in the vocational rehabilitation of disabled soldiers and sailors will bring returns in national efficiency.

"If the war should finally end in economic exhaustion, that nation will ultimately triumph which is best able to use over again her men. It is claimed that Germany uses 85 to 90 percent of her disabled men back of the lines, and that the majority of the remaining 10 to 15 percent are entirely self-supporting. Belgium, whose depletion has been the greatest, was the first nation successfully to use over again her men. Not only has the large Belgian reeducation center of Port Villez been self-supporting, but in addition it has paid back to the Belgian Government the entire capital cost of rehabilitation. . . .

"Economic necessity has made possible the results achieved in Belgium. For the other nations not so hard pressed the rehabilitation of the disabled and the strengthening of the vitality of the civil population may be an important and perhaps a determining point in their economic future. . . . It is certain that our own economic future depends to a large extent upon the rehabilitation of those disabled both in war and industry."

The far-sighted plan of turning the machine created for the rehabilitation of the war victims to the future service of the industrially handicapped is never lost sight of. As was stated at a meeting for the reeducation of war cripples held in Paris in July, 1917, "the institutions would not cease to exist with the conclusion of peace, but would then take up all questions relating to victims of accidents at work."

The economic and social problems which are crystalizing in the present emergency, as Mr. T. B. Kidner, vocational secretary of the Military Hospitals Commission of Canada, has said: "are only made more apparent through their being forcibly brought to our attention by the urgency of the disabled soldier problem. . . . We are already hearing of preparedness for the "war after the war."

A LITTLE CHAT WITH PRIVATE PAT

What the Military Hospitals Commission of Canada Is Doing to Put the Returned Soldier on His Feet

"I'm no returned soldier," said Private Pat, after hopping down the gangway from the hospital ship. "It's only a half-returned soldier I am,—or half a returned soldier, if you like,"—pointing down to his empty trouser leg.

He must always have his little joke, but he was more than half serious now.

"I mean, I've only got back to Canada," he said. "I'll be a proper returned soldier when I've got back to work. And the sooner the better; no loafing for me!

"From the way my old father writes, and my wife too, they seem to think there's nothing for me to do but some kid's job, like peddling pins, or bobbing up and down with an elevator; or else tramping around after odd jobs, like the old soldier in the fairy tale, with may-be a bit of a pension to keep body and soul together.

"I'll take whatever pension my old leg's worth, but blamed if I want to live on one, and rust away the rest of my life. I want to be a man again as I was before, and make my own living, not sponge on other people. . . . How's it going to be done? Tell me all about it."

"Well," said I, "to begin with, every man is carefully examined by doctors here, and then taken to the hospital where his trouble can be dealt with best. In your case, it will be the orthopedic center, where they'll fit you out with a good walkable leg.

"All the resources of modern science are brought into play; and you know what wonderful progress the art of healing has made in the last few years."

"You don't need to tell me that," said Private Pat. "The doctoring's been a strong point with the army in this war."

"Yes," said I, "surgeons nowadays can take a human wreck and make him an active man again, in a way that would have been thought miraculous a few years ago.

"And surgery is not all of it, or nearly all. There are the physical exercises, massage, baths, diet, rest, and occupations for the body and mind, all carefully regulated to suit each man's case.

"These exercises and occupations are the best of tonics, —they brace a man up as no drugs can."

Private Pat thought a minute. Then he said,—"And it makes a power of difference if a man wants to be braced up."

"You're right. If he uses his force of will, and puts his heart into the work of getting well again, he recovers much faster than the man who lets himself stay limp and makes no effort to help himself. The man himself is his own best doctor after all."

"Those occupations you were talking about," said Pat, "what are they now?"

"There are a lot; and they vary in different places. There is carpentry, for instance; that's always popular. Different kinds of leather and metal work; and motor engineering has come to the front. Mechanical drawing goes along with these. Of course there are typewriting, bookkeeping, and other commercial subjects, for men going into offices."

"But not for me," said Private Pat with energy. "You would have to take off my other leg, before you could stuff me into an office and keep me scratching paper for my living. Don't they let you work outdoors?"

"Of course they do, and the men are as keen as you like about the gardening and chicken-raising."

"That's me every time," said Private Pat. "A country life's the life for me, with a cow and a hen and a honeybee,—and a few other things. But I want a real farm, not just the side lines."

"That's all right. You can get one. The Dominion Government and some of the Provincial Governments have made plans for enabling returned soldiers to take up land and make it pay.

"So far, by the way, not a very high percentage of the returned men talk as if they wanted to farm."

"That's natural," he said. "When we've just been knocked out, we don't feel like tackling hard work of any kind. But that'll soon pass off. The man that was no slacker at the front will be no slacker at home, as a rule."

"No, and many of the men already see that the open air

[1]Bulletin No. 1, Annee 1916, Office National des Mutiles et reformes de la guerre.

life will be much the best for them. In some parts a lot of them have already applied for special training in agriculture; and they are getting it."

"When the boys come back after the war," said Private Pat, "you'll see thousands of them take up land, with those schemes you speak of to give them a real chance of making good."

"There is certainly nothing the country needs to encourage more," said I, "than getting the fertile land under cultivation and raising food from it. And, by a number of the men settling close together, they will get rid of the solitude that so many object to in a country life."

"They tried to tell me," said Private Pat, "that I'd have to give up the farmer idea; but I know better. I know a one-legged farmer that's as good as any; and I've seen a photo of a one-armed farmer pitching hay, no less! He had a sort of gripping contrivance."

"The government fits men out free," I told him, "with the best artificial legs and arms that can be got or made. And there is a special kind of gripping appliance to use in place of a hand when wanted.

"Besides, men who have lost an arm are surprised to find what cleverness they can develop in the mere stump that is left. An extraordinary number of things, they find, can be done practically as well with one hand as with two.

"Of course, all but a very small proportion of the men have brought home all the limbs they took away with them."

"The government pays for the keep of a man and his family, they tell me, while he is being trained for a new occupation, and for a month longer."

"That is true. Any man so disabled by his service that he cannot take up his old trade is given that training, if he will accept it. Technical and agricultural schools and universities are helping the government most heartily to give the man his training; and it costs him nothing. The greatest care is taken, too, to help him choose the line of work he is most likely to succeed in."

"You say that's for the man who's barred out of his old trade. But the rest of the men seem to get some training, too, from what you said just now."

"Yes, those occupations at the hospitals are open to all. And they do a good deal more than act as a tonic. They increase a man's technical skill and his general education. That means, they increase his power to earn a good living. Many disabled soldiers already are earning far more than they did before the war, simply because they took advantage of the instruction given in hospital."

"The wise man," said Private Pat, looking very serious, "takes all the training he can get, and a little more.

"It's a long trench that has no turning,
A piffling wage that takes no earning,
And a lazy loon that wants no learning."

"You're quite a poet."

"I didn't know it," he answered carelessly. "I sometimes jerk out bits of verse when I can get the words to rhyme, to please the doctor and the nurse at anti-septic dressing time. They seem to think I might do worse; for I'm a bit inclined to curse instead of blessing dressing time. . . . But about that training for new trades, now? I suppose there's nothing to prevent most of the men from going back to their old occupations, and taking classes accordingly?"

"No; and usually they get on better by doing that. They have less to learn. And next to doing exactly what they did before, the easiest plan is to take up some other branch of the same trade. It often happens that a man who used to be a mechanic, for instance, can take a better position than he ever had before, in the same sort of shop, owing to the mechanical drawing, and so on, that he has learned in hospital."

"That's what a good many of the men have got on their minds," said Private Pat,—"how to get a man's job, at a man's pay. Of course, the best way to get good pay is to make yourself worth it; but sometimes a good man gets less than he deserves, all the same. . . ."

"And now I've got to hop along to my medical board or I'll be late and have to tell 'em I've been looking for my leg," said he, with a broad smile.

"They'll never believe you've lost it, if you don't put on a longer face than that," said I.

"Can't be done," said Private Pat, as he shook hands. "My face wasn't built that way, thank goodness. Look on the bright side, that's my motto; and, my word, it's the biggest side too, after all!"—From a circular of the Military Hospitals Commission of Canada.

* * * *

THE SILVER LINING

Increased Earning Power Derived From Vocational Reeducation Courses

The foregoing little dialogue sets forth the way in which Canada regards her responsibility toward the returned soldier. The voluntary testimony of returned soldiers shows that, in many cases, the handicap of disability has been more than counterbalanced, so far as earning power is concerned, by the vocational reeducation given.

One man, who before the war could not read or write, and who had been driving a team at $15 a week, took a machine-shop course offered by the Military Hospitals Commission. On his discharge he was able to secure a position at $21.10 a week. He wrote to his teacher announcing that he was expecting shortly to be raised to $30 a week. Another man, despite thirty years' experience as a mechanic, was earning about $3 a day at his trade at the outbreak of the war. Through the instruction received from the courses offered by the Military Hospitals Commission, he is now able to hold a position as a foreman in a machine-shop at a salary more than twice what he received before. Another man, who had been a stenographer earning $70 a month, took a course in stenography and bookkeeping at the convalescent hospital and is now earning $1,000 a year. Still another had been a polisher earning $60 a month. Five months' commercial work enabled him to earn $87.50 in the ordnance department. One man who, previous to enlistment, had been a general laborer, earning a variable wage, took a six months' course in woodworking and is now earning an average wage of $70 a month as a wood-carver.

Examples might be further multiplied, but these are enough to show that the humane and intelligent course of rehabilitating the partially disabled man vocationally, so far as possible, is amply justified. No nation that calls itself civilized can ever again follow the practice of dumping its cripples on the scrapheap. Economically and from the humanitarian point of view, the new policy is the only one for the future.

Eleven wards of the U. S. Government General Hospital at Colonia, N. J., were opened April 10, and the remainder of the institution will be finished within a few weeks This is one of the new reconstruction hospitals now being erected, and when completed it will have a capacity of 2,000 beds.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
728 Seventeenth Street, N. W., Washington, D. C.
WILLIAM H. WALSH, M. D., Secretary.

Hospitals for War Use

The accompanying form and circular are being sent to cities in practically all of which there are one or more Class A medical schools and most of which have furnished base hospital units indicating a high standard in their hospitals. They are representative cities in the various states. Most of them are centers of population and industrial activities and on main lines of travel. There are many other cities with excellent hospital and industrial facilities which can be added to the list, and in practically all of these it is believed accommodation could be provided for from five hundred men up.

The forms when returned will be filed in the medical section of the Council of National Defense where they will be available to anyone interested.

CIRCULAR TO ACCOMPANY INFORMATION BLANK ON HOSPITALS FOR WAR USE

The information sought on the enclosed forms is desired promptly in order that it may be available in considering civilian hospitals for War purposes should the question arise. It should be accurate and as complete as possible.

It creates no obligation but it is understood that each hospital listed will be prepared to enter into agreements with the War and Navy Departments based upon the facilities generally described, provided that conditions remain unchanged and details as to compensation, etc., are satisfactory. Otherwise, a hospital should not be listed.

Although many and various questions have been addressed to hospitals since the beginning of the war, it will be recognized that information must be up-to-date to be useful.

The purpose of the present inquiry is largely to make certain that the data at hand represents the present situation accurately. Your cooperation in producing this result will be appreciated.

Instructions

1. Leave a copy of this circular and a copy of the Information Form with each hospital. The form so left should contain the data applicable to that hospital but to no other.

2. Read the Information Blank, particularly the notes, before attempting to fill it in. The investigator should verify the information by a visit to the institution and a personal interview with the superintendent.

3. In columns 5 and 7 the number of beds listed should include only those in rooms or wards which may be devoted solely to soldiers or sailors. Civilians and enlisted men cannot be assembled in the same room.

It is suggested that certain civilian cases may be taken care of in one hospital of a group, leaving other hospital spaces free for military use, the hospital accepting free or part pay civilian cases from another hospital, so as to release a military bed, to be paid the military rate for such cases.

Bed spaces are not wanted unless there is ample room, light, and ventilation.

4. In column 6, ascertain the area of land available for temporary buildings, and if auxiliary buildings such as heating plant, dining rooms, recreation rooms, etc., are needed, make sure that the necessary space is available.

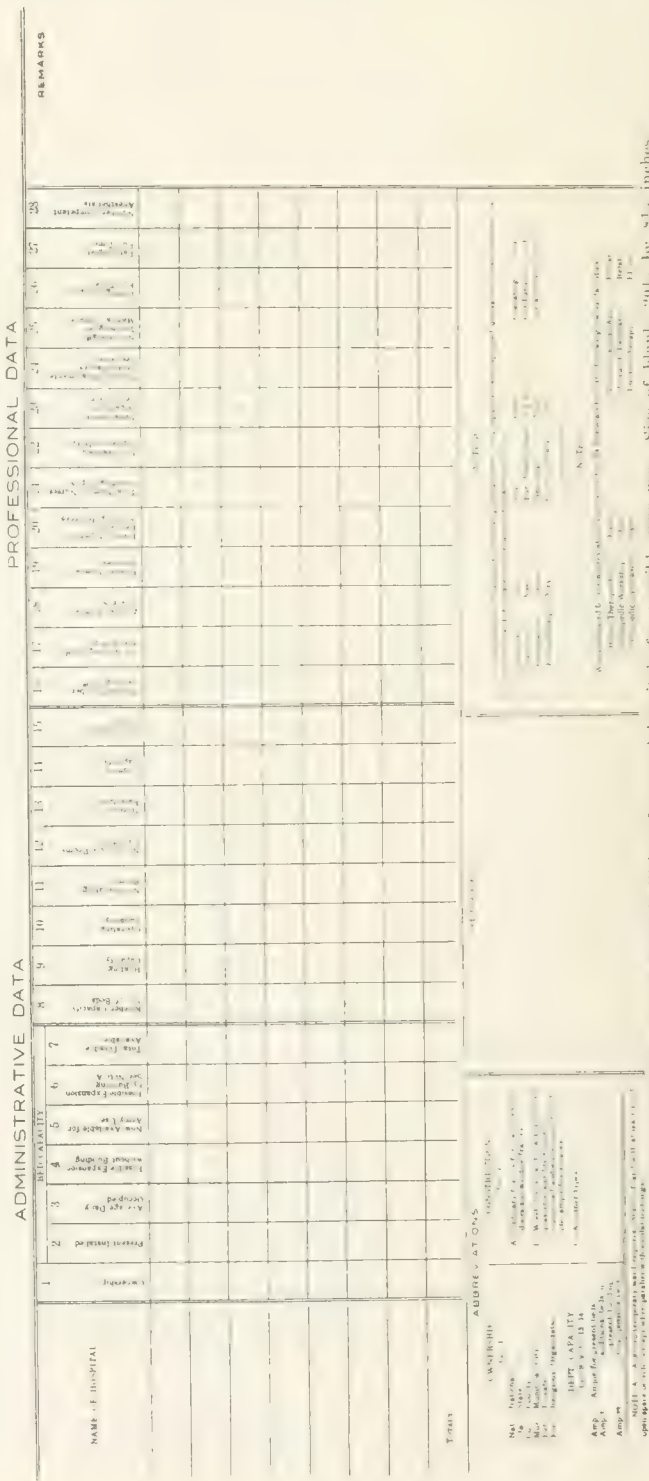


Fig. 1. First page of blank form intended to show facilities of general hospitals for possible war use. Size of blank, 20½ by 8½ inches.

FACILITIES OF GENERAL HOSPITALS FOR POSSIBLE WAR USE

(City)_____ (State)_____ (Population)_____

The Hospitals here listed will accept army patients in wards solely used for this purpose and under military authority upon the terms and conditions in the Standard Agreement as detailed when executed by them.

GENERAL INFORMATION

Direct Rail or Steamer Connection with the following seaports Name	Distance Miles	Trunk Line Connections with the following Railroads	Special Hospitals in Vicinity Tuberculosis	Educational Facilities Industrial Schools Trade Schools Commercial Schools Schools for Blind Special Vocational Schools
				Name Type
			Contagious	
			Eye	
			Psychopathic	
		Class A Medical Schools in Vicinity	Insane	
			Convalescent	

Fig. 2. Second page of blank form, for administrative and professional data. Size of blank, 10 by 7 inches.

In this connection, note that a club or recreation room for ambulatory patients is very desirable, and if some such space is not available in the existing structure, a "hut" should be provided in the grounds easily accessible to the military wards. Note the opportunities for this generally in the Remark Column.

A ground plan of the hospital premises would be very useful.

5. The investigator will please fill out the forms as soon as possible in duplicate, retain one and forward the other to the American Hospital Association, 728 Seventeenth Street, Washington, D. C.

WAR SERVICE COMMITTEE OF THE AMERICAN HOSPITAL ASSOCIATION.

Hospital Supplies Exempted from Embargoes

The following communication has been received from Mr. Richard P. Borden, secretary of the special committee on war service of the American Hospital Association:

"In Circular No. C. S. 1-A of the Bureau of Railroad Administration dated March 26 the following are exempted from embargoes: medicine, drugs, surgical instruments, and surgical dressings.

"This applies to carload shipments, but we are also informed that instructions have been given to transportation agencies to expedite the delivery of hospital supplies in less than carload lots when addressed to hospitals and properly labeled indicating their nature.

"It is largely through the efforts of the supply department of the Medical Section of the Council of National Defense that this ruling was obtained."

Mrs. Mary Powell, of San Francisco, Cal., has purchased the Barrett Sanitarium at Richmond, Cal., from Mrs. C. A. Odell.

"FREE BELGIUM" AND ITS HOSPITALS

The Wonderful Courage of the Remnant of the Belgian People in Free Belgium.

In a letter to H. P. Davison, Chairman of the War Council, written from Paris on February 28, by Eliot Wadsworth, Vice-Chairman A. R. C., Mr. Wadsworth, in describing a motor trip through free Belgium, which he had just concluded in company with several other officials of the A. R. C., says in part:

". . . For the next five days we worked along the coast visiting many children's colonies, barracks, and hospitals, all of which have been helped by the Red Cross. . . . The thing that impressed me most was the courage with which the government was going on with its work, although practically exiled, and with only 80,000 people in free Belgium. They have been wonderfully progressive and stuck to their knitting without a whimper.

"The great hospital developed by Dr. Depage has a splendid organization. The very best specialists in every line, particularly in lines involving problems of the war, are working there. One of the specialists has developed a scheme for making the most remarkably symmetrical legs and arms—the former particularly. We saw some of the men who were minus a leg at their various stages of instruction and development, until they were finally exhibited running up and down the gymnasium in their new masterpieces without a limp.

"It was hard to tell which leg they were most proud of. The same thing was true of arms and various apparatus to go on the end of the arm, with universal joints, cogs, vises, etc., which enabled them to do almost anything they wanted to. The magnetic x-rays and other devices for extracting foreign substances from the brain were also very remarkable."

THE WAR: ITS HOSPITAL, MEDICAL AND NURSING ASPECTS

THE LIBERTY FIELD HOSPITAL WARD

Portable Hospital of Unit Construction Designed to Give Air and Sunshine to All Patients—Wards Convertible Into Dwellings for Use After the War

By HENRY FAIRFIELD OSBORN, President of the American Museum of Natural History, New York.

The plans of this new type of ward, to be known as the Liberty Field Hospital Ward, are presented to the country as one of the contributions of the American Museum of Natural History to the national service.

Fig. 1. A dwelling for use after the war is over, made with three of the units.

The idea of preparing these designs was suggested through the remarkable results obtained in the First Eastern General Hospital of Cambridge, England, as described by Arthur E. Shipley, master of Christ's College, and now vice-chancellor of the university. In this hospital rapid cures have been effected through the direct exposure of the wounded to the open air and sunshine.

The dominant idea in the Liberty Field Hospital Ward is to facilitate the ready exposure of all the wounded in the ward, if need be, to air and sunshine. At the same time, abundant ventilation is constantly secured in the interior of the ward and very careful provision is made against the extremes of heat in summer and of cold in winter. These precautions against extremes of temperature have not been taken in many of the field ward hospitals designed in this country and abroad.

The second dominant feature of the design is that of unit construction throughout. The ward is built in multiples of 5 feet, each unit being complete in itself. This insures two very important results: the constructed units of the ward are portable and readily erectable at any point; the construction is thoroughly durable, and it is believed that it will prove to be economical both in maintenance and in operation, being easily heated because of double wall construction, and it also has the new and important feature that at the close of the war each of these wards is capable of being taken apart and converted into dwelling houses of any size, to be used in the reconstruction of the devastated towns and villages.

In its general dimensions the Liberty Field Hospital Ward embodies, first, the requisitions as to length, breadth, and height furnished by the Surgeon General of the United States. Moreover, certain of the best features in the design of the following field hospitals have been very carefully examined and incorporated in the Liberty Field Hospital Ward: the First Eastern General Hospital, Cambridge; the Canadian Military Hospital, Bramshott; Columbia University War Hospital; Rockefeller War Demonstration Hospital; United States Army Base Hospital (Surgeon General); United States Army Overseas Hospital (Butler and Stevens); French Hospital, through Dr. Alexis Carrel.

In the design Mr. Harry F. Beers, superintendent of construction of the American Museum of Natural History, has embodied a large number of practical inventions and applications that have suggested themselves to him and to his assistants in course of construction.

In order to show exactly the practical operation and construction of the building and to test its general features, the model on a scale of three inches to the foot has been constructed in the American Museum, as shown in the accompanying illustrations, with the following features:

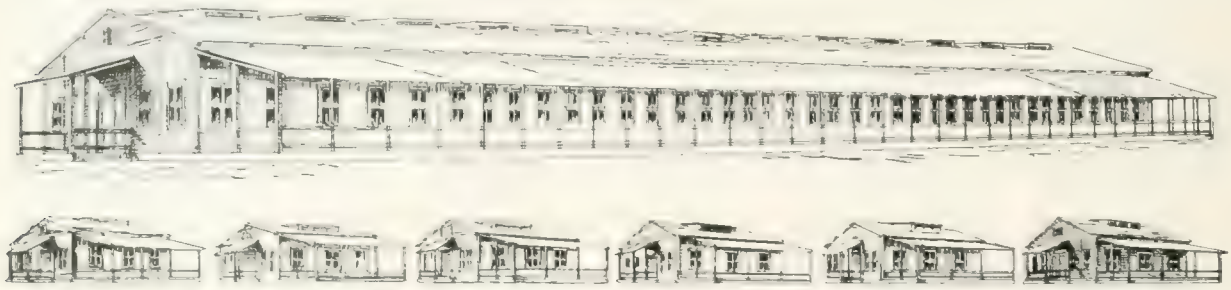


Fig. 2. Liberty Field Hospital Ward; above, the ward as it appears set up, measuring 24 by 145 feet; below, reconstructed into dwellings.

GENERAL DESCRIPTION

The ward on which the model is based, will be 150 by 24 feet, and 11 feet 6 inches to the ceiling, floor to peak of roof, 17 feet 6 inches.

This building will accommodate thirty-four beds in the open section and two in the isolation room.

The convalescent porch is the full length of the ward, accommodating one-half of the beds. The side panels are all interchangeable, as are the floor, roof, and ceiling panels.

The service portion consists of a diet kitchen 8 feet 6 inches by 12 feet 6 inches; isolation room, 8 feet 6 inches by 12 feet 6 inches; nurses' room, 8 feet 6 inches by 10 feet; utility room, 8 feet 6 inches by 5 feet 6 inches; toilet and lavatory, 8 feet 6 inches by 11 feet 6 inches; bath and surgical dressing room, 8 feet 6 inches by 12 feet 6 inches; linen room, 8 feet 6 inches by 5 feet 6 inches.

If desired, side panels can be opened and slid opposite the adjoining panel, making alternate openings of 5 feet, or, if arranged in pairs, 10-foot openings without obstructing the light through the adjacent panel windows, as the window of the open panel is opposite the closed one. Any or all of the side panels can be removed and slid along to the end of the porch and stored "back to face" like so many cards on end, and readily replaced.

For reconstruction into dwellings or buildings for other purposes, any number of cross sections or "units" may be obtained by the use of additional end enclosures, making buildings of any length, based on a multiple of 5 feet.

Fig. 3. Model of a dwelling composed of five of the unit sections.

ESTIMATED WEIGHT AND TRANSPORTATION

Very important is the weight of the entire ward and the practicability of its transportation by rail, and especially by the new standard United States Liberty Trucks. The total weight of the completed ward, 150 feet in length, as thus made, is 114,425 pounds. The total cubic feet of the sections is estimated at 4,484.

It is estimated that one standard United States Liberty Truck will carry two complete 5-foot sectional units. Consequently one complete 150-foot Liberty Ward can be transported to its destination in sixteen Liberty Trucks.

This, it is believed, is a more economical method of transportation than would be possible in dealing with the material in gross.

SPECIAL FEATURES OF THE CONSTRUCTION AND MAINTENANCE OF THE LIBERTY FIELD HOSPITAL WARD

Hospitals built in accordance with the Liberty Field plan can be arranged in many sizes, but an average one would be 24 feet in width and from 150 to 160 feet in length, with a height of 17½ feet to the ridge of the pointed roof. The interior would appear to be only 11½ feet in height, because of the hung ceiling. One of the most important features of the structure is the large air chamber above the ceiling, which serves for ventilation and insures an even temperature in all weathers. There are quickly adjusted ventilating devices overhead which can readily be reached with a hook by the nurses and attendants.

The air circulates perfectly through louvers at the top of the building and at apertures under the eaves. There are also air chambers in the sections of walls, and additional protection against the variations of the thermometer is insured by thicknesses of paper in the cellular fabric. The floor is built in the same way, and it is intended that foundations of the building shall be protected against the wind.

On one side and at one end there are commodious porches, the supports of which are held in place by devices akin to the steel hooks used in binding together the joints of old-fashioned beds. The roof of this veranda is of canvas and can readily be rolled and unrolled. The convalescent soldiers will thus have the opportunity to sit in comfort in the open air, well outside of the wards.

The side sections can readily be pushed out from their

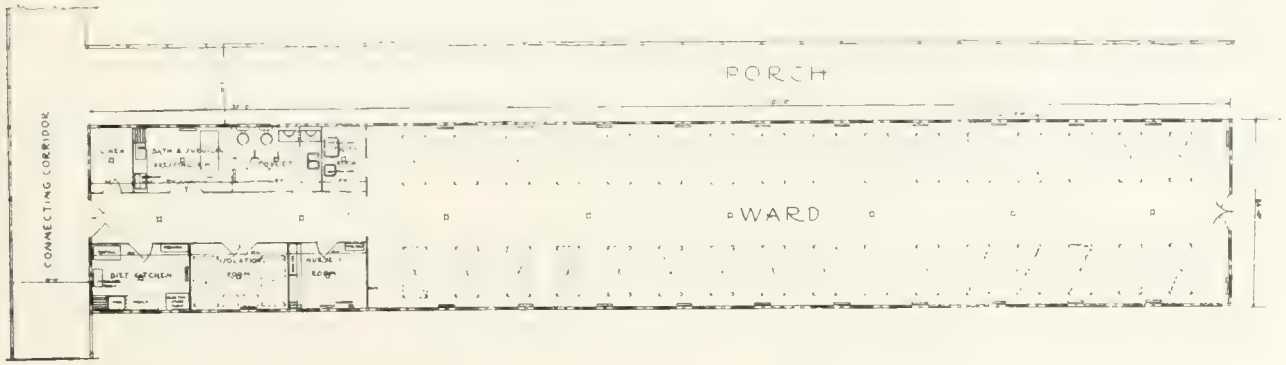


Fig. 4. Floor plan of the Liberty Field Hospital Ward. It is built in multiples of 5 feet.

accustomed alignment into a small track at the top of the outer walls and shoved entirely out of the way. All the sides of the hospital can thus be exposed on warm and pleasant days or the panels may be so manipulated as to screen half of the length.

The interior partitions of wood with compo board panels separate the space into convenient wards, kitchens, and nurses' apartments.

The roof trusses are of steel so ingeniously hinged that they can be folded into small compass, transported easily, and then opened up again like gigantic jackknives.

Although the temporary hospital of the new order was intended to be heated by steam from plants outside the walls, the dwelling houses to be constructed later from the several units could easily be warmed by stoves.

The hospital is so ingeniously fashioned in 5-foot units that it can readily be erected or removed by unskilled labor. The collapsible parts can be packed in small space either for shipment overseas or for transportation on motor trucks. All the work on hospitals of this kind could be done by few men, as this structure would be shipped from this country as a finished product.

Given the two ends of a hospital, as many units as are required for the housing of a family could be utilized. The material should be cedar, which under normal conditions, should last for fifty years, but fir or cypress might be used.

The estimated cost of thirty of these wards at the present time ranges from $225,000 to $292,000 complete, or about $8,000 a ward.

ACKNOWLEDGMENTS

In the course of the preparation of this design, which has occupied many months, the museum has had the generous cooperation of Colonel James G. Glennon of the United States Surgeon General's Office, who supplied the necessary requisitions as to standard dimensions of field hospitals for United States Army purposes; of Miss A. C. Maxwell, superintendent of nurses, Presbyterian Hospital, New York City, who gave the museum the benefit of her prolonged experience, especially in the design of the service end of the building; of Dr. Alexis Carrel of the Rockefeller Institute, who contributed designs of the latest French field army hospitals and made many practical suggestions of value; of Mr. Charles Butler, of Butler & Rodman, architects, 56 West Forty-Fifth Street, New York City, who have been entrusted with the designs of the overseas hospitals of the United States Army, after many months of observation and experience of the practical conditions on the present war front. He writes, February 1, 1918:

"I was very glad of the opportunity to go over with Mr. Beers and President Osborn the model of your portable building and to look over your full-size details. I have, as you know, had a good deal to do with portable construction during the last year and am much interested in the various types of buildings. I think that your building, and especially the feature which allows the wall panels to be slid aside so that the interior is wide open, is extremely interesting. I believe that this feature will make it especially valuable for the care of tubercular patients. I believe also that these buildings should be of great use for emergency work in the devastated regions after the war is over."

On February 14, 1918, the plans and photographs were submitted for consideration to Major L. R. Burnap, of the American Red Cross, and to the following officers of the Surgeon General's Department: Lieutenant-Colonel W. H. Smith, Colonel Bushnell, Major Floyd Kramer, Captain Gay, Major Wyeth, Colonel J. A. Hornsby, Major Baldwin.

The Liberty Field Hospital Ward Folder has been prepared with complete general designs and specifications. Sets of detailed working plans will also be furnished to responsible institutions on application.

Inquiries should be addressed to the Director, American Museum of Natural History, Seventy-Seventh Street and Central Park West, New York City.

* * * *

FIGHTING THE OTHER FOES OF FRANCE*

The Antituberculosis Work in France of the Rockefeller Foundation and of the American Red Cross

By MARY ROSS, Paris, France.

Great army camions rumble out of Paris every day to the front at the north and the east, carrying guns, food, aeroplanes, goods needed for the national defense of France. Less dramatic, but more significant for the future, was a small covered automobile painted with the French and American flags, which started on January 4 to Chartres to fire the first guns in a new campaign where the front is on every side—a campaign to cut down the tuberculosis and infant mortality which drain France every year of hundreds of thousands of lives which might be conserved.

This campaign is under the joint direction of the Commission for the Prevention of Tuberculosis in France of the Rockefeller Foundation, of which Dr. Livingston Farrand is chairman, and of the Children's Bureau of the American Red Cross, whose pediatric work is under the supervision of Dr. William Palmer Lucas, of San Francisco. A staff of lecturers and a travelling automobile, carrying moving picture films, posters, educational but delightful postcards and serious leaflets of advice to the tuberculous, to mothers, and to the general public, is the present equipment. Chartres, where Pasteur made some of his most valuable experiments, and the surrounding department of Eure-et-Loir were chosen as the first battle-ground; now that the success of the work has been proved it is being extended as rapidly as possible.

Fig. 1. "Be strong!" advises young Hercules. An illustration from the primer, "Aux Enfants de France."

The beautiful municipal theater of Chartres was thrown open for the first conference on the afternoon of January 6, under the patronage of the prefect and the mayor.

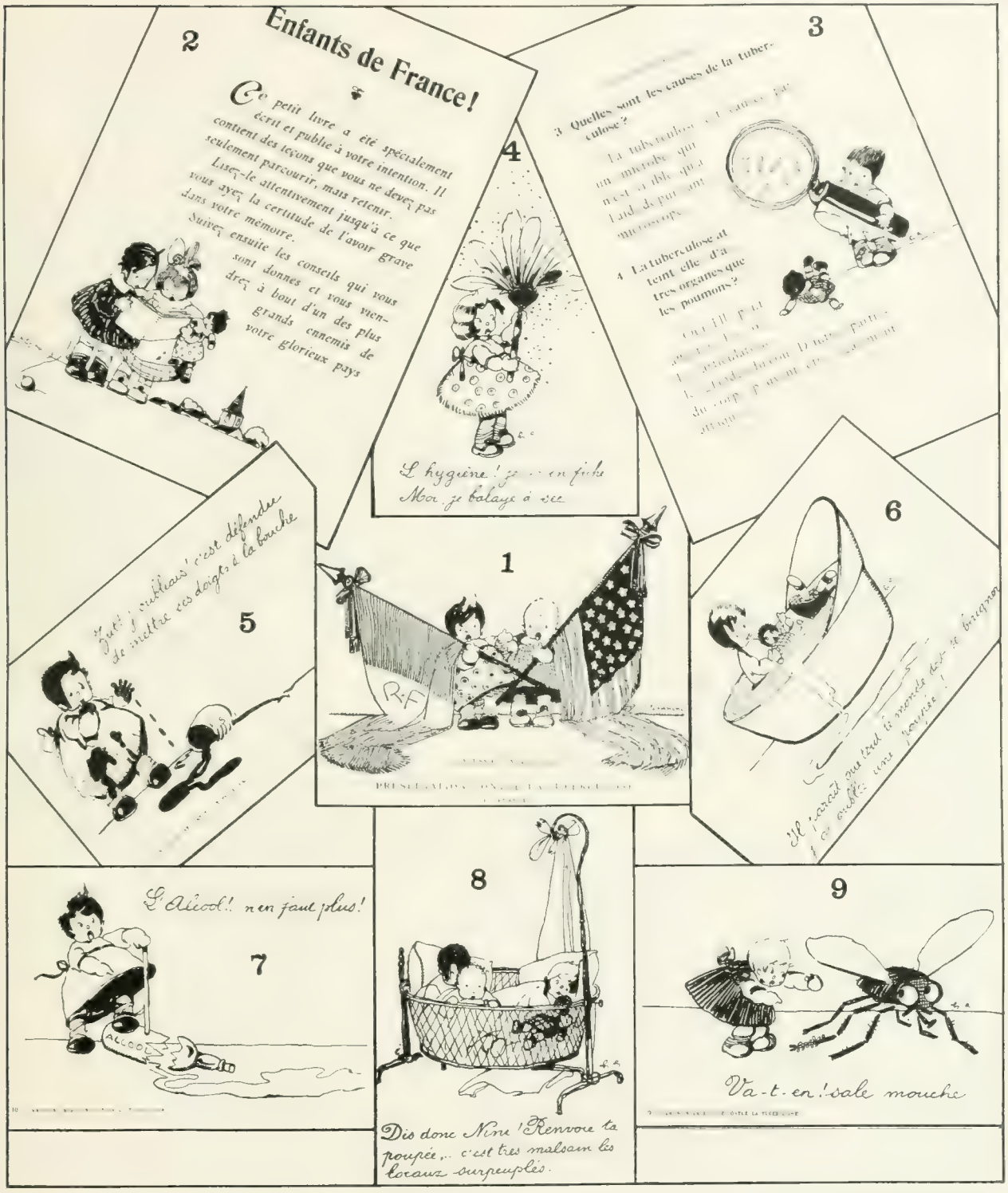
*This article, received through the Editorial and Historical Division of the American Red Cross, was written by Miss Ross in France for THE MODERN HOSPITAL.

2
Enfants de France!
Ce petit livre a été spécialement écrit et publié à votre intention. Il contient des leçons que vous ne devez pas seulement parcourir, mais retenir. Lisez-le attentivement jusqu'à ce que vous ayez la certitude de l'avoir gravé dans votre mémoire.
Suivez ensuite les conseils qui vous sont donnés et vous vaincrez à bout d'un des plus grands ennemis de votre glorieux pays
3
3 Quelles sont les causes de la tuberculose?
4
L'hygiène! je m'en fiche
Moi je balaye à sec
1
5
Zut! j'oubliais! c'est défendu de mettre ses doigts à la bouche
6
Il faut que tout le monde soit propre
7
L'Alcool! n'en faut plus!
ALCOOL
8
Dis donc Nini! Renvoie ta poupée... c'est très malsain les locaux surpeuplés.
9
Va-t-en! sale mouche

Fig. 2. These delicious French babies, drawn by L. Stephany, enliven the postcards and primers used in the campaign against the "other foes of France" as described by Miss Ross. 1. An international alliance; frontispiece of the antituberculosis primer, "Aux Enfants de France." 2. The introduction: "Children of France! This little book was written and published just for you. It contains lessons which you should not only read, but remember. Read it carefully until you are sure that you have it fixed in your memory. Then follow the advice given, and you will subdue one of the greatest enemies of your glorious country." 3. A leaf from the primer: "What are the causes of tuberculosis? Tuberculosis is caused by a microbe which is visible only by the aid of powerful microscopes. Does tuberculosis attack other organs than the lungs? Yes, it may affect the bones, the joints, the glands of the neck, and other parts of the body." 4. "What do I care for hygiene: I do dry dusting." 5. "Oh, bother, I forgot! I ought not to put my fingers in my mouth!" 6. "Everyone ought to bathe—and I forgot one of the dolls!" 7. "Alcohol! No more of that!" says the infant St. George with his foot on the vanquished dragon. 8. "Listen, Nini, put your doll out of the bed; overcrowded places are very unhealthy!" 9. "Get out, dirty fly!"

Tickets for every one of the thousand seats had been given out in advance; high-school girls and boys came *en masse*, and that afternoon and evening and the four days following Chartres applied itself diligently to hear what the Americans had come to say. The prefect presided at the first meeting and made an address of welcome, to which Dr. Farrand replied in French, to which, according to the Chartres progress of the next day, "his foreign accent gave an original charm." Speeches on the nature, care, and prevention of tuberculosis were made by the medical director of the Anti-Tuberculous Dispensary of Chartres and by M. Antignat, director of a French school at New

York. Dr. Mery, of the medical school of the University of Paris, himself a native of Chartres, discussed the extent of infant mortality in France and some of the measures necessary to reduce it. Moving pictures showed the proper care of a healthily protesting baby, and others presented in graphic form an idea of the tuberculosis bacillus and its ravages. The municipal band played the Marseillaise, the Star Spangled Banner, the Battle Hymn of the Republic, and the Belgian national hymn, the Brabançonne. In the evening the mayor made the address of welcome and the program was repeated.

Many of the people who heard the lectures may have known what the official statistics of France affirm, that one death in every eight is due to tuberculosis, which kills almost five times as many persons each year as measles, typhoid fever, whooping cough, diphtheria, and scarlet fever combined, or that one baby in every eight dies before the age of one year, but probably few of them had as vivid a realization of what those figures meant before the American automobile came as after its post-cards of serious babies who pointed accusing fingers at unhappy truths, its films, and its pamphlets had presented the picture of disease and misery, probably just because the campaign posters, though serious, were not too solemn; they print a sharper picture on the minds of people already too weary of the terrible reality.

The exhibition of educational panels, with explanatory talks including a demonstration dressing and undressing of a large doll, was continued in the city hall for four days. In spite of discouraging cold and snowy weather there were 250 visitors the first day, 300 the second, 800 the third, and 700 the fourth. When the automobile trundled out of Chartres on Friday the talks and pictures had reached directly at least 4,000 persons.

From Chartres the automobile made its way through storm-bound roads to the villages of Eure-et-Loir. In Pruny-le-Gillon 380 people, fully half the population of the village, came to see this new kind of "great American show," and at the next small village 265 persons turned out and the schoolboys asked their teacher to use the educational pamphlets for their next day's lesson. In the first eleven working days five villages and the two cities of Chartres and Dreux received the exhibition; the audiences at four formal lectures programs, at twenty talks to selected groups, and the exhibits totaled 8,700 persons.

There are many ways in which the Americans in France reach individual families in a more vital way: tens of thousands of children passing from occupied France back through Switzerland to free France are examined at the border by American Red Cross physicians, and thousands are cared for in the hosiptals and dispensaries at Evian, at Lyons, at Toul, Nesle, and a dozen other points. These are the immediate tasks which war has set; some of them will go with the coming of peace. But to the end that this war shall not drag a trail of disease and misery across the generation to come, the automobile of the Rockefeller Commission and the Red Cross, and the others which will follow it, are the beginning of an important step in international friendship.

"Take account, ladies and gentlemen, of the good fortune that is ours," the mayor of Chartres told the French audience on the opening day of the campaign. "Take account of the fact that for the first time in the history of civilization one sees a nation coming to the aid of another in this matter of hygiene on this scale. Certainly you will take note that in the annals of our Chartres, January 6, 1918, marks an important event."

ROUMANIAN MEDICAL AND HOSPITAL CONDITIONS*

An Epic of Famine and Plague following Defeat in War—Heroic Resistance of Little Nation Recounted by Members of American Red Cross Mission to Roumania

Moldavia, the northern portion of Roumania, received the refugees from Wallachia, the region invaded by the Germans during 1916. The conditions following this flight are described by Drs. H. G. Wells and Roger G. Perkins in a recent number of the *Journal of the American Medical Association.* In December, 1916, they say, "In Moldavia, a territory not much larger than the state of Massachusetts were gathered much of its normal population of 2,800,000, and from half a million to a million refugees from Wallachia, nearly half a million Roumanian soldiers, and approximately a million Russians. All this added population came in with little or no supplies of food or clothing, and under the mental collapse that results from overwhelming defeat, loss of home and property, and the depression of flight and privation. . . . Moldavia was so far from the original firing line that extensive hospital provisions had not been made, and hence those that enlisted were quickly overwhelmed by the influx of wounded or sick soldiers brought back from the retreating front. Every school and suitable large building was converted into a hospital, but there was lacking the necessary equipment for those improvised. Beds were sometimes found or made, but more often sacks of straw or loose straw had to suffice. Above all, lack of blankets was serious, for winter was already on and no adequate provision for fuel had been or could be made. . . ."

Famine and disease followed hard upon the fugitives—at first only the ordinary diseases, including a high incidence of pneumonia from exposure and a high mortality from chronic diseases, especially pellagra. Then came the epidemic diseases. The first was cholera, which, however, was soon controlled by prophylactic antichoiera vaccination.

As the cholera died out amid the famine and cold of winter, typhus, at first unrecognized, appeared, accompanied by recurrent fever. The former disease reached epidemic proportions in March, 1917, rising to a maximum in May, while recurrent fever was at its maximum in April.

"And now arose a situation that can only be compared to the descriptions in Defoe's 'Journal of the Plague Year.' The stricken population fled hither and thither to escape infection or to find food, warmth, and shelter, and so they spread the disease until it is probable that nearly a million were infected in a population, including the armies, of something less than five million. Stories are told of horrors piled on horrors—of trains stagnating on congested tracks, while in box cars the people were packed so closely together that those who died could not fall and were removed only when at last the cars were emptied; of morning searches of the railroad stations and freight yards for the bodies of persons who had crept into corners and expired; of daily sights of people dying on the streets of Jassy, some from disease and some merely from starvation and exposure. Every hospital and improvised barrack was swarming with typhus cases, and, as at first the rush of trouble was too great to permit of prophylaxis, infection spread throughout the buildings, taking not only wounded soldiers but also doctors, nurses, orderlies, and all divisions of the hospital personnel. In all places the

*The illustrations to this abstract are presented by courtesy of the Journal of the American Medical Association.

same story of horrors is told. In all, the shortage of beds was so great that usually two beds were placed together to hold three patients across them, while often two more patients were laid on the floor underneath. So short-handed were the hospitals that sometimes it was hardly possible to do more than to pick out the dead to find place for those who were still living. It is said that in the little city of Jassy as many as five hundred died in a day."

Fig. 1. Typical Roumanian barrack hospital of the chief type erected last summer. The walls are double, the space between outer and inner wall being filled with earth in winter. The largest building in the foreground is the bath establishment.

One lazaretto at this period was described as "'not" a hospital but a morgue, where the sick perished pell-mell in the fecal matter, lying on the ground, or at best on a bundle of straw. One saw side by side cases of scarlatina and the first cases of typhus. It was really an aspect which recalled Dante's Inferno."

While things were not so bad as this everywhere, "at the best the situation was desperate. The typhus was on and inside the hospitals before one knew it, and had infected the wards before deparasitization could be introduced efficiently. Hence the morbidity among the physicians was high, and, as always is the case, the overworked physicians always furnish a higher mortality figure than their patients; here 40 percent of the infected physicians died, two hundred out of an entire medical force of about twelve hundred, while the general mortality figure was only about 20 percent. How many nurses and other hospital workers died we could not learn; but there were many, and we heard of no shirking of the horrible tasks and dangers of the pest-ridden hospitals. Even the queen still insisted on her visits to the hospitals, and still allowed her adoring but infectious subjects to kiss the royal hand."

The fight against the epidemic was hampered by the lack not only of trained workers but of the simplest necessary materials—baths, petroleum, hair-cutters, firewood, and clean clothes. Peasants and soldiers in barracks, moreover, made a practice of sleeping huddled together for warmth, and so the infected lice traveled direct from one man to another.

In spite of the intense misery, the epidemic was not of extreme virulence, for the mortality was only from 16 to 20 percent. By September, though scattered cases were to be seen, the epidemic was quiescent. Beyond doubt, say Drs. Wells and Perkins, it will break forth again this winter.

The epidemic of recurrent fever which accompanied the typhus was nearly as serious, but though also a louse-borne disease, it spread less within the hospitals, especially among physicians and attendants. The mortality, however, was high—about 10 percent—in part because of lack of proper food, clothing, and heat for patients during the protracted convalescence. It is said that patients froze to death in the hospitals, and many lives were lost from cold, starvation, and lack of adequate supplies of arsphenamine (salvarsan).

Fig. 2. Roumanian Red Cross hospital near the front.

Deparasitization or disinsection is the means of absolute control of typhus. Whenever the patients in a hospital and all entering patients were disinsected, the spread of the disease within that hospital was at once checked. Hospitals with adequate organization and facilities to meet the situation at the start got through without a single crossed infection in the hospital or infection of a single member of the staff. "Now in some well-organized hospitals the typhus cases are not quarantined

at all, for, in the absence of lice, typhus is not a contagious disease." The Roumanian hospitals, especially the army, are said to be well equipped with bathing and disinsecting facilities. The situation as regards epidemics in the army is reported to be excellent.

In addition to typhus and recurrent fever, other infectious diseases have been present, particularly typhoid, bacillary dysentery, and a mild form of icterus. Deficiency diseases, especially pellagra, edema, and scurvy, have played havoc among the population.

The paper concludes with a fine tribute to Roumania and a powerful plea for aid to the Roumanians, who, in the words of the authors, "are certainly worth keeping alive; but the vital statistics show that this is at present far from being done, for the death rate averges fully five or six times the birth rate in the towns that we investigated."

"A nation which can arise from a crushed condition such as existed last December, fight through two such plagues as cholera and typhus, bear the burden of a vast, inert, hungry foreign army, and with the aid of a thousand stimulating and inspiring Frenchmen reestablish itself so that seven months later it can hold off the concentrated attacks of Mackensen's army and pile up from sixty thousand to eighty thousand German casualties is entitled to all respect and to every possible help. As a matter of fact, all that Roumania asks is to be given sufficient aid to keep the breath of life in her people—this done, they can be counted on to withstand the enemy and to develop themselves steadily in strength and efficiency. Their heroic reorganization and resistance despite apparently insurmountable difficulties constitutes one of the most splendid episodes of the war."

THE THERAPEUTIC VALUE OF THE HUMAN TOUCH

How the Administration of Anesthetics May Be Rendered Easier By Human Sympathy.

The following story is told by a graduate nurse who has had years of experience in hospital work and helped to give many anesthetics. She says:

"After I had taken one or two anesthetics myself, I began to realize what it meant to others to go through the same mental and physical process. The question to yourself, as you are going under, 'Will I come out again?' the waves of nausea, the buzzing sounds that start at first like the lazy drone of a bee and become more distinct and rhythmical until they remind you of the sound of the motor on an electric car which has stopped for awhile with the motor still running, and lastly that horrible plunge downward into the dark alone. Through all these varied sensations runs the distinct desire to have some human hand to hold to and to communicate to that hand by the touch of your own consciousness as long as you can.

"I have demonstrated again and again with children and women of nervous temperament and big men who were in desperate condition who went under the anesthetic with the fear of death upon them, that they all went under with less struggle and less anesthetic if someone with human sympathy and kindly spirit held their hands, and spoke to them reassuringly once in awhile until they were no longer conscious.

"Not long ago a small nephew of mine—I mean small only so far as years go; he is only 14, but weighs 165 pounds and measures 5 feet 9½ inches—had suffered so terribly for twelve hours in the region of what Mr. Dooley calls McNulty's point that it was decided that his appendix would do less harm in a bottle in the hospital laboratories than inside of his abdomen. Before we took the boy in the ambulance to the hospital, he pulled my head down close to his and said, 'Aunt, you'll stay right with me when they put me to sleep, won't you?' and I answered, 'I surely will, sonny.' He was quite content then, and, smiling up at the ambulance man who was waiting to put him on the stretcher, said, 'All right I'm ready; go to it.' At the hospital, after the reports from the leukocyte counts came in, the operation was set for 11:30 that night, so two of the family who had not eaten supper went around the corner to get a bite to eat. When we returned we found the boy's bed empty. It seems that the time of the operation had been put forward more than a half hour and our patient had gone to the operating room.

"Throwing my hat and coat and bag at the astonished special nurse, I ran out into the hall and demanded of a very dignified night supervisor the way to the operating room. Her answer was, 'You can't go in there.' I turned to another nurse and she pointed around the corner to the hall leading to the surgical corridor. I ran in that direction with the indignant night supervisor after me at full speed ahead, but I got there first, praying to myself, 'O Lord, let me get there before they give that boy the ether! I promised him I would stand by.'

"The operating surgeon ordered another indignant nurse to give me a gown and I went over to the table. The boy was game; he hadn't said anything, but there was in his eyes that blank horror of the unknown. It changed to a smile when I covered his hands with mine, and he took the ether easily. Before he was relaxed a nurse came and started to strap down his hands. I said, 'Please don't. He is not relaxed yet.' So, with another hard look at the interfering relative, she desisted. But the touch of the strap had aroused him and he began to shiver and struggle a little, so I held the hands tighter and said to him distinctly, 'Steady, boy,' and he became quieter and soon was completely under the anesthetic.

"The next day he said, when someone asked him if the anesthetic had been hard to take. 'Oh, no. I did begin to get nervous once, but I heard aunt say, 'Steady, boy,' and I was all right again, and I didn't feel it at all when they took my appendix out. I just felt her hands on mine!'

"Wasn't it worth while? His last conscious thought was that someone was there to hold him, and he had taken that last plunge into complete anesthesia without fear."

Pennsylvania Industrial Doctors Hold Meeting

The sixth annual conference of Industrial Physicians and Surgeons of Pennsylvania was held at Harrisburg, April 9 and 10. Chief among the subjects discussed was the movement that has been under way in Pennsylvania for some time toward the establishment of hospitals for the rehabilitation of crippled industrial workers. Strong indorsement was given this project and Dr. Francis C. Patterson, chief of the state Division of Industrial Hygiene and Engineering, expressed the opinion that at the close of the war the state would take over the proposed hospitals and maintain them permanently.

Harry A. Mackey, chairman of the Workman's Compensation Board, suggested that this board be made a separate department of the administration instead of a part of the Department of Labor and Industry, and that the State Legislature enact a health insurance law.

Mr. Mackey urged that the provisions of the law be extended to cover railroad employees and farmers. The first, the speaker, declared, must be accomplished through Congressional action, while state legislative action would bring about the second.

HOSPITAL, MEDICAL AND SPECIAL MEETINGS

The National Conference of Social Work

The National Conference of Social Work, which will hold its forty-fifth annual session at Kansas City, Mo., May 15 to 22, is the one great nation-wide medium of exchange between individual social, health, prison, recreation, industrial, relief and other workers and between organizations and communities all over the United States and Canada interested in the "how and why" of community well-being. The meeting and the program are both most interesting, timely, and complete. If there is one thing lacking in this democratic and cosmopolitan gathering of workers, it is exclusiveness. Everybody with any interest in social, economic, civic, or industrial problems, whether from town or country is invited to attend the lectures and engage in the discussions. The program is broad and virile.

War topics occupy a considerable section. "War Neuroses (shell shock) After the War" is the subject in the mental hygiene division under Dr. Frankwood E. Williams, medical director of the National Committee for Mental Hygiene, New York. Five parts in this section are devoted to mental hygiene both with reference and without reference to the war.

"Are foreign born citizens political assets? Are they being properly assimilated? Are they a menace or a benefit? What should be done about their future?" These questions and others like them are likely to be answered in the division on the Local Community, the chairman of which is Charles C. Cooper, Head of Kingsley House, Pittsburgh.

Did anyone ever hear of a poor farm or a correctional farm that practically paid its way? Of course they exist, but nearly always the farming is the sort that seems a sort of side issue that is almost never profitable and the inmates, left largely to their own devices, seem to rust into fixed positions from which it is difficult if not impossible to dislodge them. The Kansas City Municipal Farm for misdemeanants is one of the most interesting of the many places of interest that delegates to the conference will have opportunity to visit. It is one of the exceptions to the rule of non-profitable correctional farms. With an average population of 300 last year it cost the public only $2 per inmate to operate. There are 201 acres from which last year $12,000 worth of products were harvested.

Other topics of special interest are: "Care of Convalescents"; "Medical Inspection of Schools"; "Public Health Nursing"; "Hospital Social Service"; "Nutrition"; "Health Centers"; "A National Program of Infant Welfare"; "National Salvage of the Handicapped"; "Preparing the Soldier Incapacitated by Nervous or Mental Diseases for Return to Civil Life"; (this last topic is the subject of discussion by Major Richard H. Hutchings, M. O. R. C., U. S. War Department, Washington, D. C.); "Types of After the War Problems" by E. E. Southard, M. D., Director State Psychopathic Hospital, Boston (this same topic being also discussed by C. Macfie Campbell, M. D., Phipps Psychiatric Clinic, Johns Hopkins Hospital, Baltimore); "The Care of Feeble-Minded, Results and Significance of Mental Hygiene Work in the Army," by Dr. Frankwood E. Williams, medical director, National Committee for Mental Hygiene, New York City.

Said Robert A. Woods, of Boston, president of the conference this year, "No national conference has ever before been so charged with the sense of actuality, so invested with fateful significance, so formed with singleness of purpose, so wrought together into a quickening scheme of thought, of faith, of practice." Attend the conference. Write to the Secretary, William T. Cross, 315 Plymouth Court, Chicago, for the program and details of attendance.

Report of Mississippi Valley Sanitarium Association

The midwinter meeting of this association was held at the Chicago Municipal Tuberculosis Sanitarium March 12 and 13, 1918.

Problems of special interest to sanatorium administrators were taken up on the 12th, everyone on the program giving most excellent papers on the subjects presented. These were: "Place of the Laboratory in the Sanitarium," by Dr. Maximilian Herzog, director of laboratories, Municipal Tuberculosis Sanitarium; "Practical Graduated Exercise," by Dr. J. Schlesinger, senior physician Cook County Tuberculosis Hospital; "Education of the Tuberculous Our First Duty and Opportunity," by Dr. Everett Morris, head physician Cook County Tuberculosis Hospital; "The Effect of War on the Tuberculosis Sanitarium," by Dr. Eugene B. Pierce, superintendent Michigan State Sanatorium; "Is Temporary Construction of Buildings for the Care of the Tuberculous Practical" by Dr. Robinson Bosworth, executive secretary of Minnesota Advisory Commission of the State Sanatorium for Cansumptives.

In the evening Dr. John Dill Robertson, health commissioner of Chicago, addressed the conference on "Suppression vs. Repression of Tuberculosis in the Community." The subject was forcibly handled, and, with the charts of findings of the recent surveys of eight square miles of the congested parts of this city, and an explanation of the present system of handling tuberculosis in this city, was convincing to the conference as the most up-to-date and effective way of handling the disease; but necessitating just such splendid organizations are are now at work with the Municipal Tuberculosis Sanitarium, to carry it to a success in any communty.

On the 13th the paper of Dr. Stephen A. Douglas, superintendent of Ohio State Sanatoriums, on "How Shall We House the Tuberculous Child" was read by Dr. John F. Hill of McConnelsville, Ohio, Dr. Douglas being ill and unable to attend. Discussion was free and valuable points were gathered by those present. Other papers read were: "Shall the Sanitarium Handle the Contacts?" by Dr. John Ritter, assistant professor of medicine, Rush Medical College, Chicago; "Differentiation of the 'Potentially' Tuberculous Child from the Active Tuberculous Child," by Dr. E. C. Riebel, physician Chicago Open Air Schools.

On Wednesday afternoon, the 13th, Dr. Alfred A. Henry, Indianapolis, president of the association, as usual, condensed his subject, "Looking Forward Into Tuberculous Sanitarium Work," into a very good paper emphasizing the salient points, and especially that 95 percent of patients must be cared for in the home.

Dr. Kennon Dunham of Cincinnati, whose subject was "Primary and Secondary Pulmonary Tuberculosis," was

held until last on the program, thus holding the full delegation of about one hundred to the last minute. Dr. Dunham has been incensed in regard to the apparent laxity of excluding the tuberculous from the army and soon had his audience with him; as a result the following message was sent by the secretary to Dr. Charles Hatfield, executive secretary, National Association for the Study and Prevention of Tuberculosis:

"It is the sense of the Mississippi Valley Sanitarium Association, now in conference at the Municipal Tuberculous Sanitarium, Chicago, that the National Association for the Study and Prevention of Tuberculosis relax in none of its efforts designed to keep the tuberculous out of the American Army, in accordance with resolution by the national secretary at their conference."

Dr. Dunham's paper was discussed by Dr. B. H. Orndoff and Dr. Walter Metcaff.

After passing a resolution of thanks to the Chicago Municipal Tuberculosis Sanitarium and its staff, the meeting adjourned.

American Medical Association Meeting

The local committee on arrangements of the American Medical Association, which is to hold its sixty-ninth annual session in Chicago, June 10 to 14, calls attention to the personnel of the executive committee, which is important in case it is desired to correspond with someone in authority, and which consists of Ludvig Hektoen, chairman, Charles J. Whalen, secretary, William A. Pusey, treasurer, John V. Fowler, Hugh T. Patrick, Malcolm L. Harris, Frank Billings, James B. Herrick, Charles E. Humiston. All correspondence with the local committee on arrangements or with any of its subcommittees should be addressed to 25 East Washington Street, Chicago.

The chairman of the subcommittee on clinics, Dr. Charles E. Humiston, announces that there will be a series of clinics for the Fellows of the association on Thursday, Friday, and Saturday, June 6, 7, and 8, and on Monday and Tuesday, June 10 and 11.

At its recent meeting the council on scientific assembly arranged for meetings of the section on miscellaneous topics, the subject to be taken up being the reeducation and rehabilitation of the disabled soldiers. Major Frank Billings, head of this division in the Surgeon General's Office, has accepted the chairmanship of the section. The subject is one of great importance, especially to medical men.

In addition to the patriotic meeting which will be held on Thursday evening, June 13, and which will be addressed by men prominent in public affairs, there will also be a general meeting on Wednesday evening, June 12, at which eminent physicians who have been active in the medical military service of our nation and its allies will take part.

Dr. Arthur W. Hurd, for twenty-seven years medical superintendent of the Buffalo (N. Y.) State Hospital, has tendered his resignation to the board of directors. Under his supervision, every branch of the institution has made great strides. The number of beds has increased from only a few hundred to more than 2300, and the hospital now requires the services of 225 men and women nurses, and nearly 400 employees in all. Dr. Hurd has been greatly interested in the extension of the nurses' training school, whose growth and success have been largely due to his efforts. Through his work, the doctor has become well known in state hospital circles. He has been an active member of the Erie County Medical Society and the Buffalo Academy of Medicine, both of which organizations he has served as president. It is understood that Dr. Hurd intends to make his future home in California.

LETTERS TO THE EDITOR

The Nursing Crisis and the Two-Year Training Course

To the Editor of THE MODERN HOSPITAL:

In letters recently received from Major Franklin D. Martin of the advisory committee of the Council of National Defense, M. Adelaide Nutting, chairman of the Committee of Nursing of the same organization, Jane A. Delano, director of the Department of Nursing, American Red Cross, Clara D. Noyes, director of Field Nursing Service, American Red Cross, Elizabeth Burgess, inspector of Training Schools, and Annie W. Goodrich—all names that are well and favorably known in New York nursing circles—urging the registration of nurses with the Red Cross, it is stated that the army estimates that their nursing needs this year will be over 37,000, to say nothing of the needs of the navy or any other division of the service.

Various recommendations are made in these letters of methods to increase the number of nurses in order to meet the anticipated demands, but all of them totally inadequate to furnish but a small percentage of the number required. One recommendation—to increase the number of pupils of each school to its full (housing) capacity—has resulted, they say, in adding 2,700 pupils, who, if they are satisfactory, will in three years add, beside the normal output, about 3 percent to the 65,000 nurses now registered in this country.

If the committees, as represented above, having this matter in hand could overcome some of their earlier prejudices, and would remove the bars of state registration and withdraw their oppositions to the two-year training course, the immediately available material would be increased by a large percentage and the total annual output of the three-year schools (which are in a very large majority) would be automatically increased 33 percent. The success and practicability of the two-year course is fully established and placed beyond question by the standing of the graduates of the Roosevelt Hospital, a two-year school.

These two methods alone would probably make at once available nearly enough nurses to meet the present urgent requirements. The greatest possibility, however, for meeting all demands for the present and the near future lies in the potential elements contained in the base and camp hospital units and in the great number of trained and experienced physicians and nurses in charge of them. If these units were to organize practical training schools NOW, free from the red tape of any repressive organization, starting with four or five pupils to each graduate nurse (the average maintained by most schools), a concentrated course of training (not a medical education) in surgical technic and asepsis, and some symptomatology could very readily be given. For the present, they could pass over the volume of the theory that gives the professional halo (which, if needed, could later be acquired), and within a short time a class of nurses, recruited from the ranks of nurses' aids, Young Women's Christian Association, and other organizations of high-class intelligent women, would

be giving our soldiers the best nursing that any hospital or any country affords, and a few nurses would be left to meet the imperative needs at home.

If the existing dearth of nurses, as is evidenced by unsatisfied registry calls, is causing some embarrassment to the civilian practitioners, would it not be well for a representative medical organization to offer suggestions to some of the practical officials of the Surgeon General's office in order to avert the threatened famine and at the same time provide the best kind of nursing for the army and navy. This could be done by:

1. Accepting graduates of any reputable school, whether registered or not.
2. Reducing all training school courses to two years during the war.
3. Organizing schools for practical training at all camp and base hospitals here and abroad.

Then appoint to carry out this program a committee of physicians and nurses who are in sympathy with and will develop it rather than obstruct it.

CHAS. B. GRIMSHAW, Superintendent,
The Roosevelt Hospital, New York.

Views of a Small Hospital on Hospital Standardization

To the Editor of THE MODERN HOSPITAL:

Enclosed you will find some views on hospital standardization with special reference to the position of the private surgical hospital which were a part of our answer to the questionnaire recently sent out by the American College of Surgeons. Thinking they may be of interest to some of your readers we refer them to you for consideration and if acceptable for publication.

CHARLESGATE HOSPITAL, Cambridge, Mass.

SUBSIDIARY REPORT OF THE CHARLESGATE HOSPITAL IN ANSWER TO THE QUESTIONNAIRE OF THE AMERICAN COLLEGE OF SURGEONS.

We are in receipt of Bulletin I, Vol. 3, American College of Surgeons, and a questionnaire for the determination of hospital standardization, and, after hearty approval of your generalizations, are trying to cooperate with you in the cause. As we attempt to fill out the questionnaire, the answers to which are to form the basis of standardization, and by which you are to judge us, we cannot help feeling that you have started ahead without sufficient consideration of the subject before you, and it is for your enlightenment that we thus address you, explaining our position, which we know is similar to that of many others throughout the country, who are running private surgical hospitals. It is our opinion that your questionnaire has been prepared from a study of details in equipment and operation of our most advanced type of public hospital—one that is founded by endowments or public subscription, one that is maintained only in meager part by the fees taken from its patients, and one that is usually free from taxation.

Though a body of surgeons, you have not, apparently, limited your efforts at standardization to surgical hospitals, but extended its scope to take in, *without classification*, all kinds of hospitals for the care of the sick and crippled. This questionnaire appears to have been prepared by men whose experience was limited to the above-described type of hospital, and who have spent little thought on any other.

We cannot help thinking that if you limit your efforts to those hospitals where surgery forms a conspicuous or dominant part of its work, you will not only confine yourself to the functions your organization represents, but you will accelerate the clarification of the chaotic subject before you. As a matter of fact we are in considerable doubt, whether or not it would be advisable to limit your investigation, for the present at least, to the class of larger public hospitals, a class that should meet every suggestion in your questionnaire.

It occurs to us that this movement for hospital standardization found its origin in the excellent propaganda of Dr. Codman for increased hospital efficiency, and that it may not be practical to apply to the smaller public and private hospitals which have not sufficient resources or organization. We all know how this gentleman of high ideals, with rare courage created by honest conviction of the facts, attacked one of the oldest and greatest institutions for the care of the sick in this country, an institution backed by the reputation of Bigelow, Morton, Fitz, and many others whose names will never be forgotten in the annals of medicine, with the charge that its staff was not selected with true regard for its ability; that the promotion of this staff was not according to accepted rules for attaining the highest professional results; that it neglected opportunities for the promotion and increase of medical knowledge, that was within its power, a duty which it should do for the cause of humanity, and we heartily endorse his efforts.

The basis for Codman's idea is found in the fact that he believes (and we agree with him) that hospitals with all the material advantages of the Massachusetts General should not limit their activities to the care of the sick, but should extend them to the greatest extent within their power, for the promotion and development of medical science.

We should classify hospitals of surgical importance into three groups. Your questionnaire is admirably adapted for the first class. Under this head should be placed all our large public hospitals which are maintained in most part by endowment, public subscription, and taxation. These are institutions excellently equipped for the advancement of medical knowledge. The immense amount of clinical material treated in the out-patient department alone affords an exceptionally fine opportunity to study every branch of medicine. These institutions are primarily created for the care of the sick poor, and it is only recently that provisions have been made to accommodate the patient of means. The work in these establishments is performed exclusively by a staff of medical men, carefully selected by competitive examination or otherwise for their knowledge and charitable propensities. They are by far the most important resource for the study of clinical medicine and surgery we have. Many of the staff hold their position until the physical infirmity of age compels their retirement. The membership of this staff is very limited. The position is enviable, as it offers the best opportunities for professional attainment and reputation. At one time they performed practically all the surgery of major importance in the country.

The second class of hospitals is usually found in the smaller communities. They are generally endowed, supported by public subscription, and materially by the fees from public and private patients. Their financial means are limited and their clinics small compared with the first group, reducing their scientific value to very little. Generally they have a staff of doctors, but admit other doctors to care for private patients. Their principal function is the care of the sick poor and such others of a better-to-do class that seek the special advantages found in the institution. Expert surgeons are frequently called upon

for services, and may even form a consulting class. Interns, laboratories, and laboratory workers and experts are usually lacking, although an x-ray machine often forms a part of the equipment. A graduate nurse acts as superintendent, and an efficient training school for nurses forms an integral part of the hospital. The worth of this class of hospital to the community is invaluable; it affords refuge for the sick, close to home and friends; it is a life-saver in emergencies; it brings the neighboring physicians into a closer bond of union, for the public as well as their own good; it promotes consultations and an exchange of ideas; and it serves in a general way the diffusion of medical knowledge. A careful study of the requirements expected of this class should receive special consideration and a separate questionnaire prepared accordingly.

The third class of hospitals is represented by the private surgical hospital. A brief history of its origin will serve to emphasize its importance and the position it holds in relation to the other classes.

Previous to the days of modern surgery, surgical cases were treated in the large general hospitals or in the home, and there were few surgeons outside of the hospital staffs. With the advent of antiseptic and aseptic methods, things changed, and many physicians, young and old, entered the field of modern surgery; some to become proficient to a remarkable degree, often shining lights in the profession. Simultaneously with these changes, came changes in nursing. Once little better than a servant, the nurse became an important factor in the perfection of surgical methods. Her training became more and more important, until at the present time, before granting a diploma many schools require a considerable comprehension of applied subjects such as: domestic science, hygiene, sanitation, biology, bacteriology, anatomy, physiology, and simple urinary tests, besides extensive bedside experience and thorough training in sterilizing and operating room technic. Side by side their functions and importance grew apace—the modern surgeon and his nurse. In the beginning their work was mostly exploited in the home, which by the efficiency of the nurse was converted into a temporary hospital of one bed. Those were anxious days; the trained nurse, working on the hypothesis that success meant microscopical cleanliness, taxed her brain to the utmost to fulfill these conditions with the meager opportunities at her command.

Then came the private hospital. The great public hospitals could no longer find place for the increasing body of surgeons and their function, which was to take care of the needy poor, and was incompatible with the better-to-do class who could afford to pay. The first private hospitals were, as a rule, established and maintained by individual surgeons for their special benefit. Many of our representative surgeons continue to conduct these establishments, and by their means have become great educators.

As the need of private hospitals became manifest they rapidly increased in number, and were not confined to the individual but open to any surgeon the proprietors thought competent. Some were created by several operators, banded together for common interests, and others by trained nurses. At present, the latter predominate by far in number. The patronage of these hospitals is not confined to surgeons who are without hospital appointments, but is made up largely from members of the staff of our larger hospitals.

The private hospital must be considered a financial enterprise, and therein lies the basis for its efficiency. It is maintained *wholly* by fees from the patients. Its patronage depends largely on the service it gives to the doctor and to the patient. The construction of the buildings, location, and environment are secondary considerations but important. The extent and character of its patronage is a measure of its financial success and an index of its efficiency.

Both the operating surgeon and the hospital are legally responsible to the patient, for bad judgment or poor surgery and maltreatment.

The private hospital aims to simulate as far as possible the arrangements and equipment found in the larger hospitals for the conduct of aseptic operations. Many have schools for nurses, and their training and discipline is unexcelled. Selected graduates are specially qualified for the superintendency of hospitals.

The time is past when all the surgery will be done by the staffs of and in the public hospitals. The number of medical graduates with surgical aspirations who have served an internship in these institutions is constantly growing. Some of them may confine their labors to the public hospitals but the majority must find accommodations elsewhere.

The demand for the private enterprise is constantly increasing, and there is a larger number of this type than any other. They offer a great variation in equipment and accommodation. Owing to the vigilance of their proprietors, their efficiency usually ranks high. It is the consensus of medical opinion that efficiency should be the criterion for hospital standardization.

Efficiency of the hospital can readily be estimated by the perfection of those functions for which it is established. These functions are readily expressed, namely, to save life, to relieve suffering, to educate the profession, to educate the nurse.

Quality rather than quantity is recognized by your society, and justly so, in determining the value of a given institution, but quantity cannot be entirely neglected if the data you are collecting are intended in part as a reference for medical students who are selecting a position as intern, because undoubtedly the institution with the larger clinic will afford greater opportunities for study and experience.

The degree to which Codman's ideas are carried out in the first class of hospitals will mark their efficiency. In the other two classes there are only three and often but two functions to consider. Of these the most important is the question of saving life, and this can be judged only by a close examination of the mortality.

A retrospection of the case and a record of all the details attached to it would enable a competent expert to determine if the death of the patient was avoidable, questionable, or justifiable. Reckoned in percentages, these findings would form the best index of efficiency.

The relief of suffering, with "end-results," is well known to the surgeon or family physicians who patronize these hospitals and there is no advantage of the "follow-up system." A close tab is kept for years on the patient, or until, if the treatment has proved unsuccessful, the patient seeks relief from other sources, and even then he is not entirely lost track of. Thus, in the majority of cases, the end-result is well known. The scientific value of these cases is not entirely lost, because many exceptional cases are reported singly or in series by those that have had charge of them, and the facts passed on into medical literature. They relate to the efficiency of the surgeon rather than the hospital, and should be relegated to that order. The end-results that follow after the patient has left these hospitals have no value in standardization.

The third and last function of these classes of hospitals is the education of nurses. Much has been said about the abuse of this power in the smaller hospitals, and we shall not attempt to deny the truth of these facts, but to consider this an argument for the abolition of this function is the height of injustice and absurdity. Most hospitals of these classes that have a proper capacity are power-plants, often the best, for the education of the professional nurse. They not only have the advantage of the private tutor over the class lecturer, but, as the success and reputation of the small hospital is measured by its efficiency, they are stimulated to put forth their maximum efforts to produce the best results possible.

We are inclined to believe that you have not emphasized the importance of this function of the hospital. If you are willing to recognize the character and importance of the smaller hospitals as we have defined them, a little consideration will reveal the responsibility that is placed upon the professional nurse.

Seldom can or will the operating surgeon or his assistant remain long at the bedside of his patient, and in their absence he is entirely dependent on the skill and ability of his nurse. There are times when the surgeon's advice cannot be obtained and there have been times when the initiative and activity of his nurse have prevented his patient from slipping into the abyss of eternity.

It is a personal advantage to the small hospital to attain the highest efficiency in nursing and for that purpose a selection of material should be made that shows fine intelligence and mental development. If this is found lacking, a successful establishment will weed it out quickly.

After this somewhat lengthy consideration of the subject of hospital standardization, we would like to say in summary that:

Surgical hospitals should be divided into three classes, namely, large public general hospitals, small public general hospitals, and private surgical hospitals.

The efficiency of the first should be decided by the results it obtains in saving life, relieving suffering, professional education, nurse education and advancement of medical science.

The efficiency of the second and third should be graded by the saving of life, relief of suffering (quantitatively), and nurse education.

According to these findings a grading can be made into good, bad, and indifferent.

Make a questionnaire for each class, with capacity among the data.

The Aims of the American College of Surgeons in Hospital Standardization.

The following is an extract from a letter received recently from a surgeon on the staff of a hospital in Illinois in regard to hospital standardization:

"I have talked with several men in Illinois and there seems to be a suspicious feeling in the minds of some that the hospitals will be graded according to their equipment and that the large, splendidly endowed hospitals in the surgical centers, like the Presbyterian Hospital in Chicago, will be graded high and the smaller, poorer, struggling institutions in the smaller towns will be graded low. Some of the men here look upon this as a possible attempt to force surgical and medical cases back to the surgical and medical centers where they used to go. . . ."

This letter may express a general misapprehension among the smaller hospitals. In reply let me say that the American College of Surgeons does not come into the field of hospital standardization with any weapon to force reform. It does not come with any political purpose or with favor for any class of hospitals or of operators. After all, there is no better citizenship than is to be found in the medical profession; and it is unthinkable that a great body of these men should be engaged in any small purposes.

The aim of the college is, first, last, and always to be helpful. What the college is trying to do is fundamental. It asks about the facts of the day's work and not about theories. Its effort is to secure better care for the patient and that also is what hospitals want.

The standard of a hospital is not to be measured by its wealth, its architecture, or by the professional reputation of its staff. The emphasis is placed upon answers to these questions: What was the matter with your patient when he entered your doors? What did you do for him? How did you care for him? Have you done the best for him known to medical science? Have you fearlessly and with pure conscience fulfilled your duty to your patient? These are questions quite as pertinent in the small hospital as in the large one. They do not in any way indicate unfairness to a hospital, whatever may be its size or location.

JOHN G. BOWMAN,
Director American College of Surgeons.

THE RED CROSS CANTEENS

Appreciation of Americans and Their Work by the Men in the Trenches

"One of the most interesting things among our work in France is the work of the canteens," writes Mrs. August Belmont in a recent number of the *Red Cross Bulletin.* "Everyone loves the canteens. The officers tell of the effect on their men of the canteens. I went along the French line handing out cigarettes to the men and you have no idea how grateful they were. They asked me if I were English. I told them I was an American. Then their faces would beam. They would tell of the dinner they had at this canteen or that, saying they never had a better one, how splendid the American women were, and how well they took care of them.

"The front canteens or the rolling canteens which are right behind the lines—are invaluable. The effect on the men is tremendous. A captain said to me once that when the men know there was a Red Cross canteen behind their lines, and they showed signs of weariness, he would say: 'Never mind, just wait a few hours or a little longer (as the case might be), and then you'll have some good American coffee,' and they go right at it again.

"Just for example of how much these canteens mean to the boys at the front: In the last five months, we have served seven hundred thousand soldiers. The line of communication canteens, which are very nice and much more comfortable, have a big canteen room, rest room, and writing room, and this is decorated by the camouflage artists, which gives it a most delightful artistic touch. We are serving about twenty thousand men daily.

"In the Metropolitan canteen in Paris, the Red Cross served in the last four months three million portions of food. The work done in these canteens is perfectly splendid. You have no idea what a friend the American Red Cross is. One of the boys said to me, that they are changed from one place to another, and to them it means just another strange place; 'but we find the Red Cross has been there ahead of us.'"

The Jeffrey Manufacturing Company, of Columbus, O., will soon begin the erection of a $25,000 hospital and laboratory at its plant in that city.

SOCIAL HYGIENE VENEREAL DISEASES

Conducted by WILLIAM F. SNOW, M. D.,
General Secretary The American Social Hygiene Association

Please address items of news and inquiries regarding Social Hygiene to the editor of this department, 105 West Fortieth street, New York City.

THE VENEREAL DISEASE CLINIC*

United States Public Health Service Work in Extracantonment Zone About Camp Zachary Taylor.

BY STUART GRAVES, M.D., Louisville, Ky.

The average physician, to say nothing of nearly all lay citizens, has a hazy idea that the United States Government is taking measures to protect the great new national army against disease, but he knows little or nothing of the reasons or the methods for carrying out this very important work. Students of history know that every great army has left in its wake a trail of syphilis which has blighted humanity for several succeeding generations. The world in other great wars has accepted this curse as one of the necessary evils of warfare. This war is different. It is the greatest cataclysm which has ever overwhelmed mankind. Every last ounce of physical energy, every last particle of natural resource, every last bit of mental and spiritual strength is being utilized with scientific finesse to produce the maximum effect. The man-power unit, physically and mentally fit, is the all-important factor in the struggle. The strain is so terrific and the principles involved are so deep-rooted that each side is taking measures never before considered, to conserve that unit.

A sick soldier is not only an ineffective offensive unit in himself, but also keeps a certain number of other soldiers from fighting; he uses supplies which might otherwise be utilized for sound men to kill Huns; and that is what we need to win this war—sound men to kill Huns.

It is a simple corollary that, if a sound soldier is the effective unit and a sick soldier keeps more than himself out of the fight, the more men the government can keep off the sick list, the more effective the fighting forces will be in an increasing proportion. This is being recognized as in no previous war. An old saying is that prostitution follows the army. Modern experiences would indicate that this old saying is neither wise nor necessarily true. The Japanese army went eighteen months without having an immoral woman in the army. It is well known that the Japanese army was exceedingly efficient. Space forbids statistics on the prevalence of venereal disease among the armies of the world. It is the most serious single danger existing. Anyone who doubts this should read the authoritative statements published by the Committee for Civilian Cooperation in Combating Venereal Diseases, Council of National Defense. The United States has the advantage of the other warring nations in being able to learn lessons from their experiences, and it is tackling the problem of the health of the army as vigorously as other problems. It is not only organizing the medical affairs of the army and navy as never before, utilizing in the Medical Reserve Corps also many thousands of the best physicians and surgeons of recent civil life, but it is reaching out through the United States Public Health Service into civil government, cooperating with and strengthening state, county, and city health departments with, always, one object in view, to keep the soldier in good physical condition. Incidentally it is directly and indirectly rendering great benefit to those communities in which it is working, especially those communities which harbor tens of thousands of virile soldiers gathered suddenly together under new conditions. This work must be known to be appreciated. To be appreciated it must be met by every citizen with the spirit of co-operation, not only because that co-operation is a patriotic duty, but also because it is self-preservation. Thiebierge says that every soldier contracting syphilis now may be considered as representing at least one less soldier and one less father of a family in the years 1936-45. Pautrier, on his estimated figure of two hundred thousand fresh luetics in the French army, says that this means at least four hundred thousand stillbirths in the years to come; and we might add that, even if the children did live, a vast proportion of them would be better dead than they would be in such a condition that they would have to be kept by the state.

Syphilis is as old as civilization, but only in the last few years has it been understood. It affects every tissue in the human body and makes itself manifest in a score of different loathsome forms. It is infectious and is spread only by contact, usually in illicit intercourse, although there are a surprisingly large number of innocent infections. The specific infectious organism is well known and easily recognized. Accurate methods of early diagnosis are perfected. Effective means of treatment are at hand. What, then, is the greatest obstacle to its prevention and cure? Ignorance—ignorance, greater or less in amount, on the part of all laymen and many doctors, together with a certain prejudice against the frank discussion and handling of the disease.

To fight syphilis and gonorrhea in the extracantonment zone about Camp Zachary Taylor, the United States Public Health Service has established a veneral disease clinic at the Louisville City Hospital and is carrying on an educational campaign throughout the zone. Louisville has a new million-dollar public hospital with a large out-patient department. The work in it is carried on largely by the medical department of the University of Louisville. The new clinic has been made possible by cooperation between Surgeon L. D. Fricks, in charge of the extracantonment health work, Dr. Henry Enos Tuley, dean of the Medical School and superintendent of the hospital, the city board of health, the city board of safety, and the American Red Cross. The genito-urinary, and skin and medical gynecological clinics of the out-patient department of the hospital have been made over into a government clinic. The city is furnishing quarters, equipment, operating room, and ward beds for salvarsan, and is placing at the disposal of the clinic its visiting staff, social service department, and nurses. The government has engaged full-time physicians for the clinic and male and female nurses for field work. It is also undertaking to furnish all the salvarsan needed. The serological work is done by the pathology department of the school and hospital. The underlying principle of the whole scheme is that "an ounce of prevention is worth a pound of cure." The prime object of the clinic is to make infectious cases of syphilis non-infectious. Al-

*From the Pathological Laboratory of the Medical Department of the University of Louisville and of the Louisville City Hospital.

though the clinic has not yet been in existence two months, it has more than doubled the average monthly record of 1917 and is growing rapidly. Any charity patient may attend morning, afternoon, or night. Twenty-four doses of American-made salvarsan were administered in the operating room of the hospital in one afternoon last week. Whereas previously there was no night clinic, as many as twenty-eight patients have been examined in one night. Three hundred night patients were treated in February. About the city, in lavatories of hotels, barber shops, railroad stations, and other public places, in black and red type and patterned after the long-familiar style of venereal disease advertisements, hundreds of the posters shown in the illustration have been placed.

POSTED BY ORDER OF THE

HEALTH DEPARTMENT

Venereal Diseases

GONORRHEA (or Clap) is a Germ Disease. It Causes—

1. Ill health and loss of time and money to the man infected.
2. Many innocent wives to become invalids for life.
3. A large proportion of surgical operations upon women.
4. Many childless marriages.
5. Much of the blindness of children.

Gonorrhea can be cured, BUT OFTEN IS NOT CURED when the man thinks himself cured.

The germs of gonorrhea often remain hidden in the body ready to cause serious trouble even when the symptoms of disease have apparently ceased under treatment. When not properly treated the disease may remain contagious for a long time, even though the man feels well.

SYPHILIS (or Pox) is also a Germ Disease

which, if not cured, may be transmitted to wives and children many years after infection, and is likely to cause insanity, locomotor ataxia or total paralysis.

Syphilis can be cured, but only by thorough medical treatment.

PREVENTION

Gonorrhea and Syphilis can be prevented if men will

1. Keep away from prostitutes, both professional and non-professional.
2. Realize that sexual intercourse is not necessary to physical and mental health and practice continence.
3. Learn that antiseptic washes and other preventive measures are not reliable.

BEWARE OF ADVERTISING SPECIALISTS

who claim to cure "nervous debility," "lost manhood," "enlarged veins," "blood poison" and "private diseases of men."

Night Emissions, or Wet Dreams, if not too frequent, are natural in men. They are not a sign of "lost manhood." These advertising specialists get large sums of money for treating "diseases" which do not exist.

Patent Sex Medicines Are Useless; their purchase is a waste of money, and their use may lead to very serious consequences.

THE THING TO DO

If you think you have gonorrhea or syphilis, or have exposed yourself, go at once to a competent physician.

YOUR HEALTH OFFICER WILL GIVE YOU HONEST ADVICE free, and aid you to obtain scientific treatment if you consult or write to him.

YOU CAN HELP OTHERS by telling them the truth about these diseases and setting them an example in self-control and self-respect by standing for the same standard of sexual conduct for men that you expect women to maintain.

Free circulars of information may be obtained through the health office or

AT ROOM 515 POSTOFFICE BUILDING.

FREE GOVERNMENT CLINIC at Louisville City Hospital for those unable to pay. Hours—9 to 10 A. M., 2 to 3 P. M. and 7:30 to 8:30 at night.

Publication No 62

Placard posted by the Louisville Health Department in lavatories of hotels, barber shops, railroad stations, and other public places.

At the post-office, the city health office, and elsewhere educational leaflets are distributed, such as Martin's "Social Hygiene and the War," Rucker's "The Sword of Damocles," and others published by the American Social Hygiene Association. The "tenderloin" has been closed, and street-walking is being repressed as much as possible.

Every week the different camp reports to the Surgeon General show venereal disease to be more prevalent than almost all other diseases put together. Civilians and doctors outside the army must not forget that every soldier with syphilis or gonorrhea is a source of that disease for previously clean boys and girls near the camps. That reason, if no other, should impel every citizen to give his heartiest cooperation to the work of the government in the extracantonment zones. The soldiers must be kept in condition. The civilians must be protected. The unfortunate have been exploited long enough. Quacks who have blackmailed and beggared shamed patients must be driven from practice. Suggestive advertisements must be suppressed. A propaganda of education should be quietly and unobtrusively, but thoroughly carried on. The venereal disease clinic is doing a great work. It deserves to be better known by the public and it, as well as the other activities of the government in the extracantonment zones, merits our hearty support for our country and our homes.

HELP! EVERYBODY HELP!

Economy the Most Imperative Duty Before Us—Why We Must All Save.

Whether hotels and restaurants are more patriotic than the hospitals is a question asked on another page. Surely not. If there is any room for doubt on the subject, it is because we, absorbed in the immediate demands of our customary duties, have not yet begun to realize what the war means to us and that not one of us can selfishly refuse to contribute our utmost effort. An editorial in *Table Talk* puts the case so well that we reproduce it here:

"What! More? Asking still more of us? We now have heatless, meatless, wheatless, porkless, wasteless, butterless, sugarless, fatless, and dryless days. What more can we do? Why should we strain to the cracking point?

HUNGER

For three years America has fought starvation *in* Belgium

Will you *Eat less*—wheat meat—fats *and* sugar that *we* may still send food *in* ship loads?

UNITED STATES FOOD ADMINISTRATION

"Answer: Because, in Belgium the working people can no longer wash except as cats do for there is no soap, and a plague of scurvy is spreading; because, in Belgium a spool of thread costs from sixty cents to one dollar, and the people cannot patch their clothes; because, even to die, in Belgium, is a luxury. The cost of burial has doubled. Because in France, old women sit huddled over the ruins of their homes, shivering with cold, and France cannot clothe them; because, in France, old people and little children are starving and France cannot feed them.

"Because England, garbed in mourning turns her tragic

face toward us across the sea and cries, Help us, brothers; Help!

"Because France, pallid and stricken, stretches imploring hands toward us across the sea and cries, Help us, brothers, or we perish!

"Because Belgium, trampled, blood-stained, raped, and robbed, turns beseeching eyes upon us, and cries, Help us, brothers, for we die!

"They have strained to the cracking point. We must not let them break. We have felt the tightening of the tugs, but we are not yet pulling to our full strength, and, what is worse, we are not even pulling together. . . . It is like a team of horses pulling a big load up the hill—if one slacks the other must pull all the load or quit. He may strain himself to death and be obliged to fall in the traces if the other will not or cannot be made to pull with him. The slacker often has to be lashed, but even so he does not pull as wholeheartedly as the one who throws his whole weight in voluntarily.

"Don't have to be lashed! Help! Everybody help!"

HOSPITAL STANDARDIZATION

Possibility of Bringing Hospitals in the Smaller Cities Up to the Minimum Standard of the American College of Surgeons—Necessary Elements in Organization—Record-Keeping—Scientific Work.

In a paper read before the Union Medical Association of the Sixth Councilor District of Canton, Ohio, Dr. Henry Klar Yaggi, surgeon to Salem Hospital, Salem, Ohio, after reviewing the work done by the American Medical Association, the American Hospital Association, and the American College of Surgeons in the standardization of hospitals, discussed some of the important elements in this standardization. Dr. Yaggi believes that it is possible to bring hospitals in the smaller cities and towns up to the minimum standard of the American College of Surgeons. There is no reason, in his judgment, why a small institution should not do scientific work. Among the ways and means by which such an institution may be brought to a high standard, are the following:

Efforts should be made to draw the board of trustees into closer relationship with the medical profession, to make the trustees feel a personal responsibility for the welfare of the patients, and to educate them in hospital objects and aims. There should be a close relationship between the staff, the superintendent, and the board of trustees. Dr. Yaggi believes that boards of trustees in future will have to know the character and quality of work done in their respective institutions, and that credentials in regard to the qualifications and training will be demanded of physicians who wish to be admitted to the privileges of the hospital. A financial deficit is more creditable to a hospital than a deficit in meeting its obligations to its patients.

Accurate records should be kept of all cases, for scientific, practical, and medicolegal purposes. In 75 percent of hospitals, large and small, in this country, the records kept are practically valueless, consisting as they do of nothing more than the financial records, the patient's name, address, social standing, name of relative or friend responsible for bills, and the nurse's notes on temperature, pulse, respiration, and defecation. In such institutions no examination is made on admission, no diagnosis, no family history, and no physical examination.

Scientifically equipped laboratories are as essential as thoroughly equipped operating rooms. These laboratories, of course, must be in charge of especially qualified and trained workers, and should be equipped to do all modern scientific work. An x-ray department is also an essential.

A competent, specially trained dietitian is also a necessity.

QUERIES AND ANSWERS

The Principles Involved in Planning the Hospital for Communicable Diseases

To the Editor of THE MODERN HOSPITAL:

I would like to get some statistics showing the average number of hospital beds per thousand of population provided in Canadian and American cities. I would also like to know what is usually considered a fair number of beds per thousand of population for contagious diseases only. Western cities such as this would probably require a smaller number, as there are very few poor people and a great many cases of contagious diseases are treated in their own homes.

I would also be pleased if you would discuss briefly the general principles and tendencies at the present time, relating to the construction of hospitals for contagious diseases. Some years ago what was called the "elastic ward unit" was advocated. Some others again advocated an entirely separate unit for the various diseases, etc. I suppose the ordinary building providing for three or four separate divisions, is about the standard. Do you think that hospitals such as Chapin's at Providence, which depends entirely on the prevention of direct contact, will become more popular as the public becomes better educated with regard to the manner in which infectious diseases are spread?

SUPERINTENDENT OF A CANADIAN HOSPITAL.

The general principles and tendencies with relation to the construction of hospitals for contagious diseases have been discussed by Dr. Hornsby in his introduction to Mr. Schmidt's article on "Hospitals for Communicable Diseases," in THE MODERN HOSPITAL for March (p. 153) and in his article on "Standardization of Hospitals—Class XVII, Infectious-Disease Hospitals," in the April issue of THE MODERN HOSPITAL (p. 245). Dr. Hornsby's belief is that, in the ordinary contagious hospital, hospital construction should play a larger part in isolation than it does in the Providence City Hospital.

The average number of hospital beds per thousand of population is discussed in an article by Mr. McClure of the statistical department of THE MODERN HOSPITAL in the March issue. As will be seen, Mr. McClure finds the average for the United States to be one hospital bed for every 170 of population, and subtracting the number of beds in hospitals for nervous and mental diseases and convalescents, one bed to every 298 of population. It will be noticed also that he gives some figures showing the average for different states.

The number of hospital beds per thousand of population for contagious cases does and perhaps should vary in proportion to the density of the population. Generally speaking, urban communities will require more; rural communities less. In other words, the requirement for the number of beds is in inverse ratio to the population. The standard long accepted by English public health authorities and toward which the English Government strives is one bed per thousand of population. In England, however, typhoid is cared for in isolation hospitals, which is not our practice.

For a long time the Department of Health of New York City endeavored to set up a standard of one bed per two

thousand of population, and up to 1913, failed to achieve this. At the beginning of 1913 there were only 1,500 beds of this character in New York City, or approximately one bed per 3,500 of population. By 1917, the number of beds had risen to 3,260, or to about one bed to 1,700 of population. In 1913, 28 cities in New York State outside of New York City, had one bed for each 2,217 of population.

The demand that has sprung up lately for the care of cases of venereal disease should be taken into consideration in this connection. General hospitals are beginning to do some of this work, and in some states will presently be required to do it. In New York City the Department of Health is ready to take it over if permitted to do so, and is about to complete the construction of its first building to be devoted to this end.

If the hospital is to be strictly for contagious diseases, other than smallpox, in cities of from 100,000 to 250,000 the usual facilities are from one-half to one bed per thousand of population. Cities ranging between 50,000 and 100,000 would probably require even a less number of beds, while below 50,000 the requirement might be a little more.

The maximum requirements for a community of fifty thousand would be one bed for every one thousand population. For a city of ten thousand, the requirements in order to insure isolation would be one bed for every five hundred inhabitants, for the ordinary needs of the community. The number of beds provided in small communities must of necessity be much larger than that required for general diseases.

Economics of Enlarging a City Hospital

To the Editor of THE MODERN HOSPITAL:

This city, which has a population of twenty thousand, has under advisement the erection of a new hospital building to accommodate from sixty to seventy-five beds. This project would have to be financed by bond issue, and in connection with publicity for the carrying of the issue we would appreciate advice from you as to whether hospitals of this size in other cities, if conducted on a business basis, are self-sustaining. In other words, there is some opposition to this project from some of our citizens who claim that a hospital is a losing business venture and cannot be conducted with profit.

We have at this time a thirty-bed institution which is conducted in an old remodeled frame residence which has been condemned by public opinion, and there is a strong sentiment here for the erection of a new building. The city carries about one-fourth of the capacity of this hospital on a charity basis, and this institution has been showing a deficit of about $500 a month. This deficit is used as an argument against the city erecting a larger institution, the opposition being based on the theory that "the larger the hospital the larger the deficit."

I would appreciate any information you may send on this subject, based on the experience of other cities.

MAYOR OF A SOUTHERN CITY.

In a city of twenty thousand people there should be little need for argument about the need for a well-equipped hospital. The health protection of your community is not only a civic responsibility, but good economics. Is it not better to spend money in preventing sickness, the prolific source of poverty and crime, than to spend it in charity and the prosecution of offenders?

If your hospital be built and administered as a community hospital, having attractive accommodations for private patients as well as for the city charity cases, and then be managed with the same efficiency and ordinary business methods that your citizens apply to their own affairs, it need not show very much of a deficit at the end of a year. We know that it is possible for hospitals of seventy-bed capacity to be administered to show no larger deficit at the end of a year than has been shown by the thirty-bed hospital which you have had previous to this time. That, however, is not the point. You do not expect your jails or your poorhouses to pay for themselves. You pay for them because you know it costs more to do without them. This applies with double and treble force to your community hospitals.

Organization of a County Hospital

To the Editor of THE MODERN HOSPITAL:

We are equipping and organizing a new hospital in our community, and would like advice from you as to methods of organization.

COUNTY CLERK IN A WESTERN STATE.

If your county has a board of supervisors, these may appoint a board of trustees, preferably not more than seven, or at most ten men, chosen from among those recognized in your community as having the highest standing for intelligence and business integrity. Your staff should be chosen without regard to personality or politics, from among men who have specialized in their own line of work in medicine, surgery, and other specialties. If the men selected are not ethically above reproach and qualified by the best training and experience to do their work, the reputation and efficiency of your hospital will suffer. You will find that one of the most important factors in the success of your new hospital will be the appointment of a superintendent thoroughly qualified by training and experience in hospital supervision.

Anesthesia Course for Nurses

To the Editor of THE MODERN HOSPITAL:

During the year we have hundreds of operations for tonsils and adenoids, and our problem is to get physicians to give their time to anesthetics. If you know of any institution where they give training to nurses along this line, will you kindly give us their name and any other information which you may have?

SUPERINTENDENT OF A CHILDREN'S HOSPITAL.

The Lakeside Hospital at Cleveland has been giving a course in anesthesia for several years. The pupil must be competent with ether before entering. A tuition fee of fifty dollars is paid for the course, the minimum time for which is one month for physicians and six months for nurses. Dentists average about two months. If the pupil is competent at the end of this time a certificate of attendance upon the course is given; if not, a pupil may stay longer. The pupils are given their lunch in the hospital, but otherwise maintain themselves. There are about five pupils all the time. All the anesthetics of the hospital are under the direction of the anesthetic department, which is composed of the chief anesthetist, two assistants and five pupils.

We shall be glad to be informed of any other institution offering similar instruction.

The Missouri Baptist Sanitarium, of St. Louis, has invited bids on the erection of a four-story addition designed to provide accommodations for additional private patients and to afford facilities for the care of such sick or wounded soldiers as the Government may ask the hospital to receive. The new building will contain 100 rooms and is estimated to cost $110,000. A new surgical building, representing an investment of $150,000, was opened by this institution only about two years ago.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General United States Army.

The Wounded at Work in the Pavilions of the Ospedale Maggiore. E. Medea. Osp. Maggiore, Milan, 1917, V, No. 8.

Shortly after the outbreak of the war, the Biffi pavilion and later the Litta and Zonda pavilions of the great Milan hospital were set apart as workshops for wounded soldiers in order to busy the mind of the patients and give them the opportunity of making a little money. For this work the patients were chiefly selected from the neurological division, men with lesions of the brain, of the spinal cord and peripheral nerves. Manual labor, properly selected and directed, has proved an excellent curative factor not only from the point of view of nervous-muscular reeducation but also from the point of view of psychical reeducation of the will power. The results have, indeed, been most gratifying. The patients have more self-control, are more quiet and contented; they like their work and strive to excel in it. Two ladies, volunteer nurses, are supervising the work. The men make small baskets, purses, neckties, necklaces, etc. The objects are sold and the proceeds turned over to the makers.

The Homeless-Leper Asylum of Matoonga (Bombay). G. Bastogi. Osp. Maggiore, Milan, 1917, V, No. 9.

The incurability and the contagiousness of leprosy render the isolation of the patients in leper hospitals necessary. Leprosy is quite frequent in British India, and a number of leprosariums have been established. One of the handsomest and best organized is the Homeless-Leper Asylum of Matoonga, located about 20 miles from Bombay. The grounds comprise about 12 acres. It consists of six large and two smaller pavilions, besides a small hospital, a school, a kitchen, a pharmacy, all in separate buildings, and dwellings for the attending personnel. Each sect has its separate little temple. All the services (sanitary and administrative excepted) are performed by leper patients. There is a school-teacher, a tailor, a shoemaker, cooks, etc. Children under 10 years of age are kept in the women's division, and all are regularly attending school. The discipline is firm, but the patients are kindly treated, and they enjoy all the freedom consistent with the institution.

The Struggle with Tuberculosis. J. L. Wortman Ziekenhuis, Amsterdam, 1917, VIII, No. 11.

The famous words of Granger, "Tuberculosis is preventable because it is a contagious disease" are true, but how to prevent it is still a debatable question. The fact that many cases of tuberculosis are cured has led to oversanguine hopes of curability, thereby leading to wrong methods of prevention. The truth is that, from a social-pathological viewpoint, pulmonary tuberculosis, as Grotjahn says, must still be considered an incurable disease. For practical purposes all cases of tuberculosis may be divided into three groups: (1) cases in the early stages of the disease; (2) advanced cases; (3) the open forms of tuberculosis. The first and third groups may be considered curable. For the second group the most effective preventive measure is isolation. By this method it has been possible practically to wipe out in Europe another disease, leprosy, which has much similarity to tuberculosis. In view of this fact Norway and to some extent also Germany have built a great number of small hospitals for the isolation of incurable cases. But the fact is that everywhere only small measures and small means are employed in this work. To be successful, tuberculosis must be fought on a large scale and with large means.

Text of William Shippen's First Draft of a Plan for the Organization of the Military Hospital during the Revolution. Ann. Med. History, N. Y., 1917-18, I, No. 2.

When the Revolutionary War broke out, the colonies had to create an army and all the various services connected with it. The most difficult task was the organization of an efficient medical service. Dr. Morgan and William Shippen accomplished this task with great ability. In 1776 Shippen was appointed director of the hospitals on the west side of the Hudson River. February 14, 1777, he submitted to Congress a plan for the organization of military hospitals. He recommended the establishment of a number of hospitals with the necessary equipment. These hospitals were to be in charge of two physician and surgeon generals. Shippen also recommended the appointment of an assistant director, an apothecary general, a commissary, a matron for every hundred sick and a secretary for keeping the accounts of each hospital. As the war was then a war of movement, Shippen also proposed flying hospitals, consisting of "a suitable number of large, strong tents for such sick and wounded as cannot be transported with safety or may be rendered fit for duty in a few days." This interesting document was published by Col. W. O. Owen, Med. Corps, U. S. A., and is accompanied by a facsimile page of the original.

Eugenics Limited to the Care of Pregnant Women, Advocating Expectant Mother Hospitals and Special Dispensaries. A. Smith. Dublin Jour. Med. Sc., 1917, CXLIV, December Number.

The great mortality among infants under one year of age shows that many children are brought into the world in a weakened condition and little fit to cope with the hard conditions of life that await them. This is due to the want of proper treatment of the pregnant mother. Many poor women lack the necessary rest, healthy and nutritious food, and proper care during gestation. Dr. Ballantyne was the first to advocate pre-maternity hospitals. His idea was that these establishments could be annexed to the lying-in hospitals. But Smith's idea is that the state should establish independent hospitals for expectant mothers where poor women who have not the means to properly care for themselves could spend the later months of pregnancy under proper treatment and medical supervision. For those mothers who cannot for many reasons avail themselves of these hospitals, he advocates the establishment of special dispensaries, where the poor women could get advice and assistance during pregnancy. Such a special expectant mother dispensary has already been established in Dublin in connection with the National Lying-in Hospital. It is the first of its kind in Ireland, and is maintained by private benevolence.

Social Insurance and Hospital Care. Osp. Maggiore, Milan, 1917, V, No. 10.

Probably in no country have the hospitals received so numerous and large donations from benevolent wealthy men and women as in Italy. Unfortunately, this has also had the effect that the hospitals are largely considered charitable institutions. But these views are rapidly changing. The hospital service has expanded so greatly of late years that the communities and the state have spent large sums to defray their expenses. Hospitals are no longer looked upon as local but great national institutions. It is for these reasons that the question of social insurance is also coming into the foreground in Italy. A bill of this kind has recently been submitted to the Italian legislative bodies. The most important points are as follows: All salaried people of both sexes, employed in agriculture, industry, or commerce, including home workers, whose annual income is less than 2400 lire ($480) must insure themselves against sickness, accident, invalidity and old age. Officials appointed in the various provinces are to manage the insurance. The insured are to receive medical care when the case arrives besides a daily allowance of 1.50 lire to begin from the fourth day of incapacity for work and continuing for ninety days. Expectant mothers are to receive 40 lire. In case of death a funeral indemnity of 50 lire will be paid.

BOOKS RECEIVED FOR REVIEW

Books received are acknowledged in this department, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

The American Illustrated Medical Dictionary. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc., with the Pronunciation, Derivation, and Definition. New (ninth) edition revised and enlarged. By W. A. Newman Dorland, A.M., M.D., F.A.C.S. Flexible leather, pp. 1179, with 331 illustrations, 119 in colors. W. B. Saunders Company, Philadelphia, 1917, $5 net.

A Manual of Clinical Diagnosis by Means of Laboratory Methods. For Students, Hospital Physicians, and Practitioners. By Charles E. Simon, B.A., M.D., Professor of Clinical Pathology and Physiological Chemistry in the University of Maryland Medical School and The College of Physicians and Surgeons, Baltimore, Maryland. Ninth edition, enlarged and thoroughly revised. Cloth, pp. 851, with 207 engravings and 28 plates. Lea & Febiger, Philadelphia, 1918, $6.

The Human Mechanism, Its Physiology and Hygiene, and the Sanitation of Its Surroundings. By Theodore Hough, Professor of Physiology and Dean of the Department of Medicine in the University of Virginia, and William T. Sedgwick, Professor of Biology and Public Health and Lecturer on Hygiene and Sanitation, Massachusetts Institute of Technology. Revised edition. Cloth, pp. 572, illustrated. Ginn and Company, Boston, 1918, $2.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1917. With the Comments That Have Appeared in the Journal. Cloth, pp. 169. American Medical Association, Chicago, 1918, 50 cents.

New and Nonofficial Remedies, 1918. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1918. Cloth, pp. 452. American Medical Association, Chicago, 1918, $1.

Putnam's Vegetable Book. By Mae Savell Croy. Cloth, pp. 275. G. P. Putnam's Sons, New York, 1917, $1.50.

The Principles of Mental Hygiene. By William A. White, M.D., with an introduction by Smith Ely Jelliffe, M.D., Ph.D. Cloth, pp. 323. The MacMillan Company, New York, 1917, $2.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.

Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

A Portable X-Ray Set for Field Service

During 1917, the research laboratory of the General Electric Company made some experiments and developments in x-ray apparatus of interest to the medical and surgical professions. The concrete result of these efforts was a portable x-ray outfit, in order that troops in active service at a distance from base hospitals might have the benefits of x-ray examination promptly available. This was accomplished by a process of elimination through a series of tests which resulted in the final assembly of the

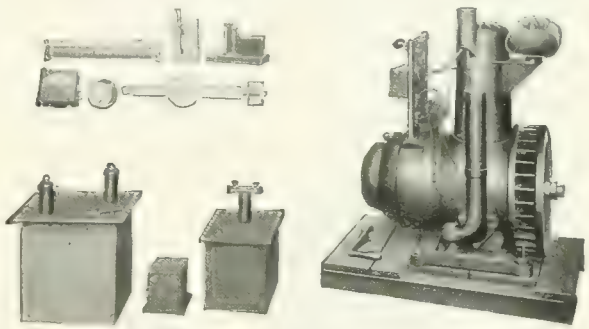


Fig. 1. Illustrating component parts of portable x-ray equipment.

most suitable products of several manufacturers which are used in connection with the Coolidge tube. Particular care was taken to pick out those elements which were in actual production and available for immediate use.

The equipment consists of a single cylinder air-cooled gasoline engine directly connected to a 1-kilowatt direct-

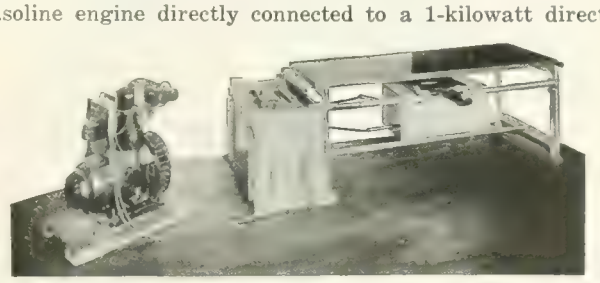


Fig. 2. Complete portable x-ray outfit, including radiographic table.

current generator provided with slip rings, a main x-ray transformer, a filament transformer for lighting the filament of the Coolidge tube, a voltmeter and milliammeter, the necessary controls and switches, and a special radiator type of Coolidge tube capable of rectifying its own current. Variation of x-ray output is obtained by variations of engine speed. The carburetor of the engine is controlled through a sclenoid, and the necessary changes

in speed are effected by means of a simple resistance unit, located at the head of the operating table when the outfit is being used.

For raidiographic work the set will deliver 10 milliammeters at a voltage corresponding to a spark of 5 inches between points. For fluoroscopic work the current is reduced to 5 milliammeters, the voltage remaining the same. Owing to the rectification characteristics of the Coolidge tube, no separate rectifier is required. The entire equipment, including the operating table, can be rapidly assembled or disassembled for transportation, the complete set having a net weight of about 350 pounds.

While sets for similar service have been developed in Europe, under the spur of urgent need, the equipment here referred to constitutes the first American portable x-ray outfit of this capacity.

The DeVilbiss Theromer

The DeVilbiss Theromer is especially designed for heating and spraying wax-like preparations in the treatment of burns. It affords almost instant relief from pain and forms a protective covering over the affected surface and encourages the rapid growth of new tissue. Not only physicians and hospitals are finding it a wonderful aid, but also industrial plants where danger of burning is always present. One of the leading features of the Theromer is that the entire spray-head can be lifted out and the preparation put into the container without cutting it up into small pieces. With the large and accessible opening for the preparation, an extra container for dipping the brush into for making the final application is not necesary.

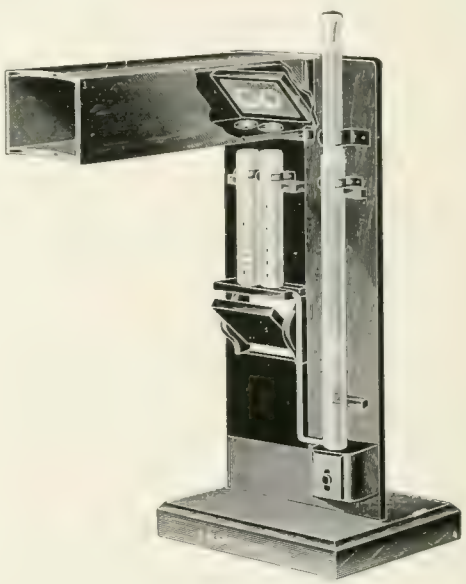
The Theromer should be completely assembled and thoroughly heated before spraying. The hot water in the jacket will keep the solution and spraying parts hot much longer than would a single container without this feature. The outer container should be filled with water to the water line before the two containers are put together. The water and preparation should be put into the Theromer before heating. Before spraying, the burned surface should be thoroughly cleansed and then dried (with warm air if available). After a thin film has been sprayed over this surface, a thin layer of gauze or absorbent cotton should be placed over the dressing, and then a heavy coating sprayed or flowed on with a soft camel's hair brush. This cast forms an air-tight dressing, which should be changed daily. Owing to the nature of the preparations used, this can be done without pain to the patient and without irritating the surface.

DeVilbiss theromer, showing assembly of reservoir, hot-water jacket, and detachable top.

An Improved Colormeter

The E. H. Sargent Company of Chicago has put on the market what is known as the Kennicott-Sargent Colorimeter. The apparatus consists of a wooden camera which exhibits on a dark background the pictures of the sample and a standard side by side in the form of two large round discs of color by means of light transmitted through the sample and standard from swinging mirrors. The body of the camera is of the correct shape and focal length, enabling the observer to place his face close to the mouth of the instrument, whereby all side lights and distracting rays are eliminated.

The glass part consists of a tubular reservoir provided with a glass plunger. From the bottom of a graduated glass chamber there extends a glass tube connected with the bottom of the reservoir, also a corresponding tube for the unknown solution to be tested. This colorimeter is especially recommended where 150 c.c. of sample fluid is obtainable, on account of the rapidity of operation, while maintaining the highest standard of efficiency possible with the color method.



The Kennicott-Sargent colorimeter.

In physiologic chemistry this instrument is especially useful in urine analysis, but is also extensively used in the examination of water, replacing Nessler cylinders for water analysis.

The Conformable Invalid Bed

This invalid bed, which is of recent origin, has many features which will appeal to those who have had experience in handling invalid beds.

As in the design of most beds, this one has all of the various angles of the three sections; that is, the head piece, center, and foot piece. There are no possible adjustments, apparently, which would be required which cannot easily be had in the Conformable Bed. All adjustments, however, are made from a single point. The panels are both raised by a crank, a small handle being pushed toward head or

foot, according to which panel is to be raised. Then by turning the crank handle in the natural direction, i. e., forward toward that particular panel, the latter is raised. Reversing the movement of the crank handle lowers it.

Two of the various positions obtained with the Conformable Invalid Bed.

Throwing over the switch handle to the point at the opposite end of the bed permits that panel to be raised or lowered by movements of the crank handle corresponding to those just outlined.

When the motion of the crank handle stops, no matter at what point in its rotation, it finds the panels immovably fixed in position, requiring no locking device or thought for safety. They can be moved only by the crank handle itself and cannot be lifted or lowered by any strain that is put upon them direct. The reason for this is that they are actuated by a long worm screw instead of the rack and ratchet devices sometimes employed in other beds. A neat convenience is the hinging of the handle proper of the crank, which drops down when not in use, preventing its being struck accidentally and jarring the occupant.

New Splint for Treatment and Transportation of Fractures of the Lower Extremities

During six months of service in a French war hospital, Dr. Charles T. Butler, New York, had ample opportunity for observation of methods involved in the treatment of fractures and in *Surgery, Gynecology and Obstetrics* for December, 1917, he describes the "balanced suspension method" developed by Dr. S. A. Blake, by means of a modified Thomas and Hodgens splint, which has proved very satisfactory. The only thing, however, that he considered an obstacle to making this method universally acceptable is the necessity of keeping on hand a number of splints of various sizes, for both the right and left side, as well as splints which are bent at different angles, this being necessary on account of the fact that the splints used by Dr. Blake are made of solid iron rod.

After returning to this country, Dr. Butler at once set to work to devise a splint which would overcome the above-mentioned difficulty and make the method adaptable not only for war work, but for general surgical practice, and it will be seen from the accompanying illustrations that he has succeeded in his undertaking. The result is a splint which can be used as a right and left Hodgens, a straight right or left Blake extension and suspension splint, which can also be set at any desired angle, and last, but not least, the outfit can be folded for transportation as is shown under Fig. 1. In this form it takes a space of only 27 by 9 by 1½. Fig. 2 shows the component parts of the apparatus.

The position in Fig. 1 is that of a right Hodgen with spreader at the knee thrown forward.

In Fig. 2 the position of a left Hodgen has been obtained by shifting the relative position of the tubing; the near

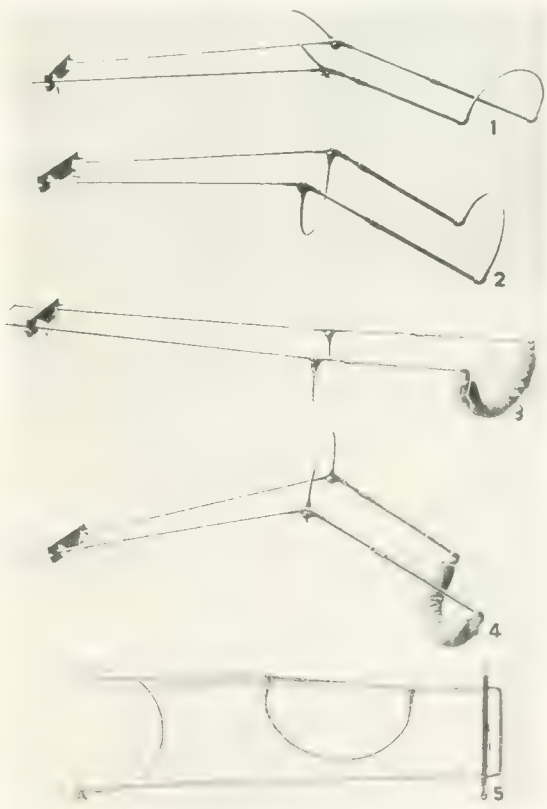


Fig. 1. Positions obtained by use of Butler fracture traction and extension splint.

tube has been pulled away from the center of the splint, the far one pushed toward it. Any desired position is rigidly maintained by a friction lock; additional width of one inch at the knee can be obtained by unscrewing the joint locks and placing the spreader inside instead of outside the joints. The spreader may be placed either above or below and in the latter position it is much more convenient in cases where wounds of the anterior surface of the knee are present.

The thigh length may be increased by drawing both tubes away from the knee joint, and the thigh width may be made wider or narrower by altering the relative position of the sliding tubes. The width is greatest when the tubes are the same distance from the knee joints.

To use the apparatus as a straight or Blake splint (Fig. 3) it is only necessary to pull off the tube section, turn it over, and replace it on the rods. A left or right Blake

splint is obtained in the same way as described above for Hodgen's splint. A cushion of rubber cloth is laced on, as in this position the semicircular rod rests well up against the tuberosity of the ischium.

The spreader at the knee joint is not absolutely essential when the splint is used straight, but gives additional support and is ready for use in case, at a later date, it seems advisable to bend the knee (Fig. 4). In the bent position the spreader is essential to insure strength.

The enxtension bar at the foot slides readily along the

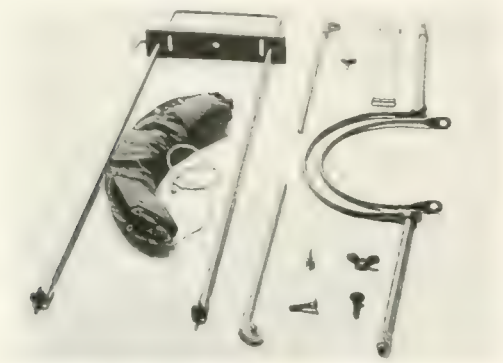


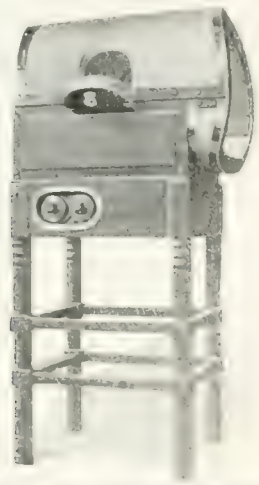
Fig. 2. Butler's splint disassembled.

splint and may be fixed in any desired position by means of the set screws at the sides. To the buckles are attached the extension bands that have been fastened to the limb, and a knotted cord passed through the center hole runs over a pulley at the foot of the bed and is attached to the extension weights.

The advantages of treating fractures of the lower extremities by this method are fully described by Dr. Butler in his article on the subject mentioned above.

Universal Hot-Air Apparatus.

Treatment by dry hot air is becoming more and more popular and is a part of the equipment of most hospitals and sanitariums. There are numerous devices used for this purpose, many of them fulfilling every requirement,



Wolf Universal hot air apparatus.

yet others lacking in some respects many of the features which go to make a convenient and safe device.

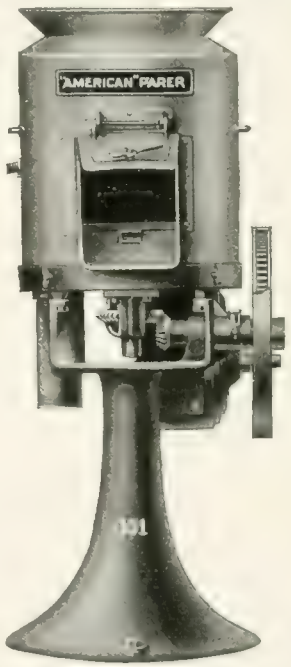
Dr. H. L. Wolf of Mt. Sinai Hospital, New York, has recently had designed an apparatus which has been worked out in detail, embodying those features which Dr. Wolf through long experience considers essential. This is known as the Universal Hot-Air Apparatus, and is so designed that it is adaptable to the treatment of the hand, arm, elbow, foot, knee, leg, and shoulders; in fact, it is a universal apparatus so far as the extremities are concerned.

Contrary to many types, this one is built with a double insulated wall, preventing the escape of heat and also affording a more even distribution. This all makes for economy in current consumption and safety in application. All switches are inclosed in an aluminum casing, built flush with the outer-wall, thus preventing damage to the switches or wiring. The manufacturer building the Universal apparatus also makes a full line of the large sizes for full body treatment.

Vegetable-Paring and Washing Machine

Here is a new paring machine which has been developed by one of the principal builders of labor-saving devices. In these times of high-priced labor, equipment of this kind is always of special interest to the hospital superintendent.

The American parer is a piece of apparatus which will certainly prove of great economic value as regards both the labor involved in paring and the prevention of waste. It may be used for hard root vegetables, and has been



The "American" parer, with container door open.

extensively adapted for use in the various governmental institutions.

The design is such that there are no moving parts exposed, the whole apparatus occupying but little space, being equipped with an individual enclosed motor which is moisture and dust proof. The American parer does its work thoroughly, quickly, and with a minimum of care on the part of the attendant.

The trustees of the Longview Hospital of Cincinnati have elected Dr. Emerson A. North superintendent of the institution for a term of five years, to succeed Dr. Frank A. Harmon. Dr. Harmon has held this position for the past thirty years, but refused a reappointment because of ill health. He has been resting in California for the last several months.

CHINESE MEDICINE

Some of the Medical Superstitions of Ancient China—Diseases the Result of Witchcraft or the Displeasure of the Gods

In a recent number of the *Chinese Medical Journal* appears an article by Dr. K. C. Wong of Hanchow, China, entitled "Chinese Medical Superstition" which reads like a fanciful fairy tale. Dr. Wong tells, in his literal oriental fashion, some of the superstitions of Chinese medicine as it was practiced hundreds of years ago and as it is still practiced in China where Western medicine has not reached.

Cures may be made by incantations, charms worn on the person or posted somewhere about the house, plasters, drugs from animal, vegetable, or mineral kingdom, and transfer of the disease by magic to a tree or animal.

Similia similibus curantur seems to be an ancient belief and organotherapy an equally ancient practice. Centuries before we knew anything of thyroid and adrenal extracts the Chinese were giving mixtures made from lungs for coughs and colds, the kidneys of dogs for disease of the

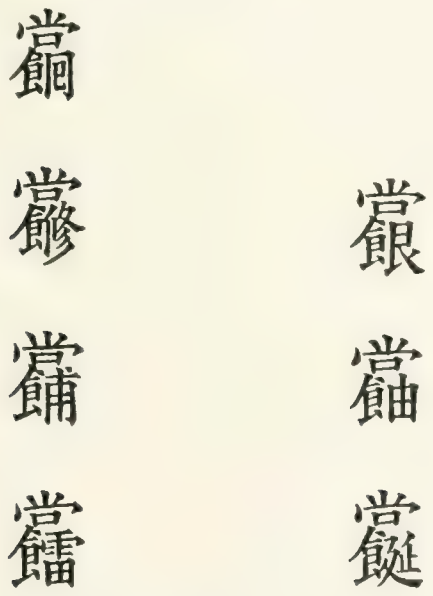


Fig. 1. On the left, charm to prevent spitting of blood, to be taken with decoction of atractylis. On the right, charm for flatulence, to be taken with decoction of orange peel.

kidneys, and parts of the tiger's bony anatomy for weakness, because the tiger signifies strength. Even animal and human excreta are given in China for epidemic fevers and diseases of the pelvic organs. In all these therapeutic agents, male organs or derivatives must be used. The male or *yang* element will counteract the *yin* or female element, as the devil is supposed to be entirely feminine.

All diseases result from witchcraft or the displeasure of the gods, for instance, an attack by the fox ghost or the cat devil which infests certain hill districts, and comes in the form of beautiful girls or youths, causes great weakness and prostration, even delirium and insanity. Bubonic plague will visit a house if the house god or some of the other innumerable gods have been offended, and all brain affections, hysteria, delirium, and insanity come from the possession of devils. When a patient becomes unconscious, breaking the family crockery and howling to the best of one's ability will drive away the particular devil which has caused the trouble.

Unaccountable marks or bruises on the body are caused by the devil pressing a finger on the spot. Some of the following formulas and prescriptions are given:

For Malaria Fever: Use yellow paper and cinnabar pencil. Chant this as you write: "I came from the East and on the way I saw a pond where dwelt a dragon with nine heads and eighteen tails. I asked him what was his food and he answered me that he liked especially to eat the demon of malaria. In the name of Lao Taz I warn you quickly obey!" Burn this paper, mix the ashes with congee and take in the early morning on the day of the attack. One should stand facing the east while drinking it.

For Bones in the Throat: Put half a bowl of clean water or tea on the table and stand facing the east. With the left hand closed and put across the chest, draw certain Chinese characters in the water with forefinger of the

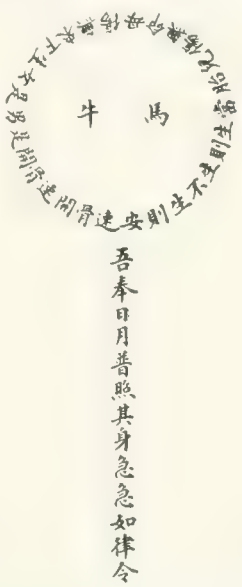


Fig. 2. Charm for hastening delivery and protecting the child.

right hand. Repeat this as you write: "This bowl will change into the great eastern sea, the throat into a hundred-thousand-ell deep pond. The nine dragons will return to their caves." Draw three deep inspirations from the east, blow on the bowl, and drink the contents.

For Bites of Dogs: Immediately after the bite and on the spot write with the middle finger of the right hand a certain Chinese word on the ground. For every stroke chant one line of the following verse:

"The golden pheasant's cackling in the sky,
On earth the grasscock crows;
Your humble self is bitten by the dog,
So some mud he borrows."

At the last stroke dig into the ground for a bit of mud and apply on the wound.

For Erysipelas and Inflammations: Have the patient sit with face towards the east. Take a cup of well water and recite: "The cold is severe; thick frost falls. Ice and snow are everywhere. In the name of the north god I command you to subside. Peace forever." Then write five characters—ice, frost, snow, cold, and chill on the affected part. It is obvious that such a great amount of cold must reduce the inflammation.

For Ringworm:

"The fish devours the ringworm
The ringworm devours the fish,
They devour one another,
And the ringworm will finish."

Repeat this seven times with one breath. Then inhale deeply, blow on the tip of the pen and write the word "bear" on the diseased part.

To Allure Blessings to the House: *Artemisia vulgaris* or *mugwort* is much used at the Dragon Boat Festival, when it is hung over the door either together with a charm or together with the acorus calmus or sweet flag. The latter is usually shaped in the form of a sword and placed

over the door, while the sprig of mugwort is fastened on the sides. Two lines of poetry run as follows:

"A sprig of mugwort attracts a hundred blessings,
A blade of sweet flag obliterates a thousand evils."

Some of the current beliefs in China might have originated in American vaudeville. For instance, a sty on the eye signifies a wicked mind, and shows that the person looks at immoral things. A pimple on the nose demonstrates that you have been naughty. Love sickness is a very difficult disease to treat; there are two varieties: single and double; the double where both parties are attacked at once. The former is the worst and cannot be relieved by ordinary drugs. Only one method is certain to cure; take the suspender of your sweetheart, boil it down and drink the resulting solution.

A VACATION HOUSE EXPERIMENT

A Summer Cottage Home for Nurses—An Ideal Vacation and an Opportunity for Needed Rest.

By HARRIET LECK, R.N., Principal, Grace Hospital Training School for Nurses, Detroit.

Last summer an opportunity was given us to "try out" something for our nurses, the need of which had been felt for some time—a "vacation house" idea. It came about in this way. One of the occupants of a cottage at a near-by lake came to me and inquired if there were not some nurses who would like to take her cottage for a few weeks. She said she did not care to rent it, but wanted it occupied by responsible parties who might find it necessary to economize during their vacation. Two of our nurses needed some place for an outing. The very thing—the opportunity was splendid. One was a student nurse who seemed to be languid and indifferent. The doctor had advised at least three weeks' rest, but she had no real home and the brother with whom she made her home had gone to war. She had not felt like imposing on distant relatives or friends. Another was one of our younger graduates who was in somewhat different circumstances, but needed the same sort of an outing. These two young women were sent out together, and, during their stay, many of the other nurses visited them, spending half days or whole days, taking out lunches, books, and magazines and enjoying with them the sun baths, bathing, rowing, fishing, etc., afforded on this lake. The results of this plan were excellent.

The vacation house for the nurses of Grace Hospital, Detroit.

At the suggestion of a very good friend of the school, we then set about devising a plan for a vacation house. We wanted a place where not only student nurses but graduates as well could enjoy a "homey" and inexpensive vacation. Would the Alumnae Association take it up and carry it through for the benefit of the school and their members? It seemed hardly possible, because their interests and money had many other calls. Would not some one individual philanthropically inclined be brought to realize the need of just such an undertaking? Yes, surely, there was one before whom we could lay the plan and ask her to help us carry it through—a woman who was brought up under the example of a generous mother and who had for years been very liberal in supplying the needs of our nurses, but this possible benefactress was spending the summer in the East, and might not have time or inclination to give to an experiment. However, a cottage at Lake Orien, thirty-five miles from Detroit, was selected, the details of rental and selling obtained and a concise letter written setting forth our needs. We waited with anxiety and prayer that the message would be fruitful of success. It was. A wire came back as follows:

"Mrs. Newberry and I heartily approve of your plan for a nurses' vacation house. You may go ahead and rent a house for the balance of the season if you can arrange for it with someone in charge. We will be responsible for the financial end.—HELEN B. JOY."

Then things moved. We had our opening at this vacation house on August 15. The staff doctors of the institution were courteous enough to take the nurses out in their machines. We had an interesting program. A large flag was unfurled, a school pennant presented, after-dinner speeches made, all in keeping with the spirit of the day. During the remainder of the summer until November 1, the cottage was open to both graduates and pupils. A chaperon had been secured—a woman of culture and refinement with that saving grace, a fine sense of humor, and executive ability as well. She not only made the nurses feel at home and entered into their pleasures, but also succeeded in giving them the chance of planning and cooking meals as well as serving and washing dishes. The staple groceries were supplied from the hospital.

One young woman in the school had just returned from a three weeks' vacation at her home, where, as usual, she had entertained friends incessantly, the result of which was that she had been on duty only a few days when she had to give up. The doctor advised a complete rest, and it was only by a great deal of persuasion that her mother was prevailed upon to send her to the cottage instead of taking her home. After three weeks with regular rest hours, plenty of fresh air, and good nourishing food, she spent a week-end at home to assure her people of the splendid results following her stay at the lake. She came back and seems perfectly well, having been able to matriculate without any interruption up to the present date. We think our vacation house in reality saved us this young woman as a nurse.

Very noticeable to us has been the difference in the attitude of the nurses after having spent a few days in such a delightful place, free from the restraints and the atmosphere of hospital life. They come back fresh, happy, and enthusiastic over their experiences. The same cottage has been rented for the full season, and we expect even better results this summer.

The United States Public Health Service is directing the sanitation and medical and surgical relief at the $50,000,000 explosive manufacturing plant the War Department is building at Nitro, near Charleston, W. Va. A 40-bed emergency hospital is already in operation and construction work has been started on a base hospital to accommodate 500 patients.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. X *June, 1918* No. 6

THE NURSING CRISIS

Insufficiency of Supply of Graduate Nurses to Meet War Needs—No Prospect of Adequate Increase—Dangers of Breaking Down Standards—Training of Nursing Aids the Solution

By S. S. GOLDWATER, M.D., Director Mount Sinai Hospital; Chairman War Service Committee American Hospital Association; Chairman Committee on Hospitals, General Medical Board, Council of National Defense, New York.

TWO million Americans are under arms. For the first time since war was declared, American troops are reported to be engaged in active hostilities in large numbers. Immediate preparation must therefore be made for the medical and nursing care of large numbers of wounded men, as well as of the sick. Medical units, with nursing auxiliaries, have been assembled in France in anticipation of this need; many of these units have thus far had little work to do, but their days of idleness will soon be over.

The Surgeon-General plans to set up not less than 200,000 hospital beds in France; 100,000 beds have already been established or provided for in this country, making a total of 300,000—a number approximately equal to the total number of beds heretofore available in the general hospitals of the United States for the care of the civil population. Meanwhile it is reported that the Government will soon put another million men in the field, bringing our total armed forces up to 3,000,000, and necessitating the establishment of 150,000 additional hospital beds at home and abroad. It is the task of the Government to obtain a nursing organization of 50,000 women to serve over 400,000 sick and wounded. This must be done. How to do it is a question which has not yet been conclusively answered.

During the past year the army and navy, with the help of the American Red Cross and the active support of hospitals, hospital committees, and nursing organizations, have been endeavoring to enroll a number of nurses adequate to the need. The number thus far enrolled is reported to be a little over 9,000, or approximately one-fifth of the total required. The army now announces a drive—an effort is to be made to enroll "not less than 1,000 graduate nurses monthly." This proposal is all very well, but the expectation that the actual enrollment of graduate nurses will reach any such figure is not justified in the light of the experience of the past year. *The truth of the matter is that the country cannot spare the number of graduate nurses that the army requires, nor can the training schools produce new graduates in sufficient numbers to satisfy the needs of both the military and the civil population.*

For a year the country has been scoured for graduates, and 9,000 have been enrolled! Many of the nurses who have enrolled with the army and navy have been drawn from institutions; some were public health nurses; the remainder were engaged in private practice. Nine thousand in a year equals 750 per month. Is it likely that the pace can be quickened?

"In spite of the fact that only 9,000 have thus far entered the military establishment," says a recent report on the nursing situation, issued by the Public Health Committee of the New York Academy of Medicine, "a shortage of nurses has already become apparent in the hospitals, particularly in the smaller ones, and in private practice. The American Nurses' Association has looked into the matter of the shortage, and reports that until several months ago most of the registries had available nurses, but since then all

of the nurses are busy all the time." In New York recently it took forty-eight hours and the combined efforts of seven registries to produce two graduate nurses for a desperately sick patient, and this is not an isolated case. Letters from all parts of the country tell the same story. The flow of nurses from civil to military hospitals will continue, and should be encouraged; but urge as we may, the stream will diminish and not increase in volume during the months to come—it cannot be otherwise. From this source the needs of the army will not be supplied in full measure.

If graduates are not now available in sufficient numbers, why not produce more? The suggestion is not new. The efforts of the military authorities, of the American Red Cross, of the Nursing Committee of the Council of National Defense, and of cooperating local committees have not been confined to the enrollment of ready-made graduates. A heroic attempt has been made to increase the graduate output, or, at any rate, to prepare to increase the future output, by augmenting the undergraduate enrollment of the country's 1,500 training schools. Those who believed that this effort would meet the necessities of the case did not subject their program to a sufficiently critical analysis. To catch up with the military program, the enrollment of nurses for military service during the coming year will have to be nearer 2,000 than 1,000 per month. Older graduates are not obtainable. What can the schools furnish? The number of pupils now enrolled in the training schools of the country is reported to be approximately 40,000. Of this number considerably more than one-third are probationers and juniors, about one-third are intermediates, and considerably less than one-third are seniors or near-graduates. The schools cannot be expected to turn out more than about 11,000 graduates annually. What will become of these?

Of the year's 11,000 graduates, some will marry and will be lost to the profession; a certain number (more than in prewar days, when attractive business opportunities for women were fewer than they are today) will take up gainful occupations other than nursing; some will enter the field of public health nursing; a group will remain in hospitals, where they are needed to take the place of graduates now in the military service; a large proportion will engage in private duty nursing; and the remainder will enter the military service. Is it reasonable to suppose that the army will succeed in winning over more than one-third of the total number of newly-made graduates? My estimate is one-third; the average estimate of three experienced training school principals is one-fourth. The principal alumnæ associations in New York recently made a concerted and successful demand for an increase in nurses' wages from $4 to $5 per day. Economic conditions justified the increase, but the increase will not stimulate army enrollment.

The insufficiency of the available supply of graduating students is generally conceded, and, as I have already said, efforts to increase this supply have been made. What are some of the measures that have been tried or recommended?

First and foremost is the direct appeal to the young women of the country to enter the ranks of the nursing profession as a patriotic duty. This appeal has been made over and over again during the past year from the platform and through the press, but the results have not been satisfactory. Now, as heretofore, a small proportion of the training schools of the country are receiving applications in excess of their capacity. This fact has led to the suggestion that the training schools increase their capacity by renting additional houses for dormitory purposes—as if the capacity of a school for the thorough training of accomplished bedside nurses could be indefinitely and satisfactorily increased without adding hospital beds! It is true that the hours of hospital duty might be somewhat shortened and the pupils' tasks lightened, but there is a minimum below which it would not be wise to cut down the practical work of the pupil who is being fitted for the serious and responsible task of army nursing.

Is it really worth while, in any broad consideration of the problem, to place so much emphasis on the demand for additional housing facilities when a majority of the schools in the country are unable to obtain even their normal supply of pupils? Within two months the superintendent of a prominent training school in New York has been importuned by not less than fifteen training school superintendents in and about the city to direct to them her rejected applicants! The New York *Times* has published some illuminating letters from smaller hospitals that are in desperate need of probationers, with none in sight. The Young Women's Christian Association reports that its "graduate trained attendants are in demand to supplement a shortage" in the hospitals.

In November, 1917, a statement issued by the Committee on Nursing of the General Medical Board of the Council of National Defense credited the training schools of the country with an increased enrollment of 2,600 over the previous year —this, after more than six months of actual war, during which period persistent and intelligent efforts were made under the direction of some of the

ablest women in the nursing profession to increase the number of pupils in every part of the country. By all means let these efforts be continued and accentuated; but, in estimating the probable results, let us not forget the general condition of the country and the opportunities that are opening up for women in every direction. Two million men, who have formerly been identified with business and industrial interests, have joined the colors; another million is to follow. Many new industries have sprung up in consequence of the war. The gainful occupations that are open to women are more numerous than ever before. Industry, business, and the professions during the coming year will compete with training schools as never before for the services of women who wish to be self-supporting.

In brief, there is not the remotest prospect that the problem will be solved by a suitable increase in the number of pupil nurses unless the prevailing standards of admission and of training, laboriously built up through a generation of effort, are deliberately broken down and cast aside. On such terms pupils in large numbers can be acquired, and on no other. But if the number of pupil nurses were increased during the next twelve months by as much as 50 percent, or 20,000, this would offer no solution of the problem unless 20,000 advanced pupils now in the schools could be safely delivered over to the military service. This has been proposed, and there may be some way of getting it done, but, if there is, the censor has seen fit to keep it dark. Most superintendents, having parted with a large proportion of their supervisors and graduates, have a very natural inclination to hold their senior pupils. If the seniors can be dropped without injury to nursing standards, then the three-year course is a humbug and an imposition. I, for one, do not think it is; I believe the third-year pupils are still learning.

Two extremely perilous proposals have thus far been made in this connection. The first is that the established requirements for admission to the training schools be temporarily lowered or suspended. I will not argue against this; I will merely say that I am against it. The second is that the army add to its payroll a sufficient number of "practical" nurses or attendants. Such women, without full professional qualifications, have a perfectly proper place in the scheme of civil life—a place which unfortunately has not yet been plainly marked out for them by law, but which should be, and, I trust, soon will be; but the Government can ill afford to accept them as nurses, not only because of the bad effect that their acceptance would have on the morale of the medical and nursing departments of the army, but because of the position that their service in the army would give them, the claims that it would enable them to make, after the war. Send 20,000 or 30,000 such women into civil life from the army hospitals after the war, and the difficulty of maintaining nursing standards would be immeasurably increased.

It has been suggested that the Medical Department of the army inaugurate training schools of its own. At first glance the scheme is attractive; on closer analysis it loses much of its charm. If the army school or schools should succeed in enrolling 10,000 pupil nurses per annum, what would be the effect of this enrollment on the existing training schools? It is a question to what extent army schools could attract women who would not otherwise consider entering the nursing profession. The diversion of any considerable proportion of the normal supply of probationers from civil to military hospitals would be disastrous to the civil hospitals and the civil population; besides which, as I shall presently show, the army can secure raw material of a special kind at considerably less expense and without danger to the 1,500 schools now in existence.

How would a huge army training school, with branch schools in all of the cantonments, affect nursing standards during and after the war? An army school could hardly promise training as thorough as that which is given in schools connected with representative general hospitals—the clinical material of the army is too limited. The faculties of the army training schools would be hastily improvised, and would probably be less efficient than those of the civil hospital training schools, which have been developed gradually over a period of years and through many vicissitudes.

There is food for thought, too, in the possibility of the sudden cessation of hostilities—under such circumstances what would be the fate of the army training school pupils? How many of the enrolled thousands would secure admission to nonmilitary schools for the purpose of completing their professional training? What welcome would be accorded them? What allowance would be made for such training as the army might have been able to give them? How many, without more ado, would plunge into private practice? If many adopted the latter course, would not the effect on nursing standards and on the economic status of graduate and registered nurses be deplorable?

There is danger in the suggested army training school, viewed from any angle. If the army schools succeeded in attracting the number of women required to staff the military hospitals of the country during a long war (and it must do

this if it is to succeed in any large sense *without diverting probationers from the civil hospitals*), there would be an excessive number of professional nurses in the community immediately after the war; competition would be intensified, and professional standards would be endangered. If the large numbers that are expected to enroll were not an *additional* supply, but were merely drawn away from the civil hospitals, the civil hospitals and the civil population would suffer immediately. On the other hand, if the number of enrollments were small, the whole project would fail to satisfy the army's pressing needs. These were undoubtedly some of the reasons that led Surgeon-General Gorgas to declare, in an official memorandum dated January 24, 1918, that "the plan of organizing training schools in connection with army hospitals is not believed to be practicable."

I come finally to what appears to me to be the safest and best way out—in fact, the only way out —namely, the training of a large number of non-professional, voluntary war nursing aids, enlisted for the period of the war only, and composed of a class which will not take up nursing professionally under any circumstance, but which is willing to give gratuitous hospital service during the emergency.

Such women can be obtained quickly in large numbers. They can be carefully selected. They can be uniformly trained without expense to the Government; civil hospitals stand ready to furnish the necessary training facilities. War nursing aids should be trained in civil rather than in military hospitals, because not all applicants, however well meaning, will qualify; and by intrusting to competent and practiced superintendents of established training schools the duty of weeding out the unfit, the Government will save expense and trouble. Here is a patriotic service worth doing!

A standard course of training for nursing aids or nurses' assistants has been devised by a group of the best-known and most competent training school superintendents in the country. The American Red Cross has already given part of this course, consisting of fifteen preliminary lessons, arranged to precede the practical ward work, to more than 10,000 women, who have been registered at a dozen or more training centers in the larger cities. In New York city alone nearly 500 have finished the practical as well as the theoretical course, and about half of this number are now actually engaged in some form of hospital work. Two thousand other women stand ready to take up this work in New York city as soon as the hospitals are opened to them.

Among the 1,500 training schools of the country there should be no difficulty in finding 300 which are capable of training, and which can be trusted to train, twelve nursing aids or nurses' assistants per month, or, say, 150 per annum. With the moral support of the army the hospitals of the country can easily obtain and turn out 25,000 nurses' assistants before the end of the present year, or 50,000 by July, 1919.

The women whom I have in mind belong wholly or almost wholly to the leisure class. They are now contributing nothing to the efficiency of the nation or to the success of the war; yet they are strong, healthy, patriotic, and willing.

They are the only labor reserves that the country possesses, and they can be brought into the nursing field without lessening the available supply of workers for any essential industry. They want to serve the nation, and they should be permitted to do so. The same class is giving valuable service in England—England would be lost, and we shall be lost, without them. When the war is over, the nursing aids will melt away into private life, strengthened and chastened by their experience, leaving the nursing field in the hands of professional nurses. They should be prepared now, for in no other way can the war nursing problem be solved.

Food-Rationing and the Invalid in Great Britain

Some interesting side lights on the rationing system in force in Great Britain are furnished by *The Hospital*, London. For the guidance of hospital committees and private practitioners called upon to give medical certificates for extra allowances of rationed articles, the ministry of food has drawn up a list of diseases and the special foods to be allowed in each. Thus sugar can only be allowed in cases of dysphagia, cancer of tongue, esophagus, etc., and wounds of the jaw. Extra meat and fat can be allowed in cases of diabetes and tuberculosis, celiac disease, and pancreatic insufficiency. Milk can be supplied in any case of acute illness, to suckling and pregnant women, and to consumptives. But certificates can be granted only for periods of one week, unless special permission has been obtained from the local food office. It is interesting to note that the committee consider there is no disease for which cream should be allowed, and that there is no evidence that the present "war bread" is in any way injurious to health, nor that any malady requires bread made from superior flour.

War and Laughter

"Laugh and help win the war," said one optimist. When laughter is not silliness, when it is genuine merriment, over-riding difficulties and dangers, when it manifests courage and a mental attitude of confidence that would simply find relaxation, then is the injunction worthy of every man's attention. The value of a wholesome laugh in terms of health is undoubted.—Social Hygiene Bulletin.

There's only one place in the world where you can lead a happy life, and that is inside your income.

THE NON-RESTRAINT SYSTEM IN THE INSANE WARDS OF NAGASAKI HOSPITAL

Excited Patients Cared for in Buildings Without Barred Windows or Locked Doors—Psychological Advantages of the More Normal Environment—Each Patient Provided With a Special Attendant

By NOBORU ISHIDA, M.D., Professor of Psychiatry, Nagasaki Medical College, and Chief Alienist of the Prefectural Nagasaki Hospital, Nagasaki, Japan.

THE Prefectural Nagasaki Hospital is a general hospital with accommodation of two hundred beds and has a prospect of extending it by adding one hundred beds. The medical staff of the hospital consists of the clinical professors of the Nagasaki Medical College, and the clinic and polyclinic for the students are carried on in the former. There was no building for the insane in this hospital until 1912. In 1913 a little building containing but twenty beds for the mentally deranged was constructed in the compound of the hospital. It has no guarded windows and no locked doors. Its management under these conditions requires as many attendants as there are patients.

Fig. 1. View from the south of the insane ward of Nagasaki Hospital shortly after opening.

In realizing this design, though on a small scale, I am much indebted to the former superintendents of the Nagasaki Hospital, Dr. T. Tashiro and Dr. Y. Murakami, and my colleagues in the hospital, as well as Mr. K. Hashimoto, a member of the Nagasaki prefectural assembly, who presented the bill to the assembly, otherwise I would have been unable to get some experiences pertaining to this new system, which is now affording the administrators for the insane in Japan material for studying the problem whether a building for the insane can do without those mechanical restraints or not.

Let me explain a few points on which the non-restraint system finds its foundation. It is the practice in all up-to-date asylums in Japan to treat the excited patients at first in the guarded building and remove them if they show much improvement in their condition to the unguarded building. There is no reason for me to object to this procedure, which is most natural in treating the psychoses. An idea, however, occurred to me concerning this point:

If the excited patient is treated in the unguarded building from the beginning, what will be the difference? The insane, though excited, would be subjected to the impressions of the guarded windows and locked doors, as far as they are not unconscious. If we shall succeed in treating them without burdening them with those impressions, we shall gain by this in itself, not to

speak of the shortened course of the disease, earlier appearance of improvement, etc. I have stood on this point of view and realized it these four years.

The whole building is made of wood. There are twelve rooms and two toilets, which are built according to the European design, as is the case with all other hospitals in Japan. All the rooms are electric-lighted and steam-heated.

An admitted patient has to take a bath to clean himself before he is led to his room, and, if necessary, he is to undergo the continuous bath in a large Japanese tub which is made of marble. The tub is so large that it is possible for three patients to take a bath at the same time, lying on the cloth which is hung in the water. Quieter patients take baths in twos and threes at once, time being divided for male and female patients. When we have to do with an excited patient, it is easy to take off the cloth, allowing him to take the whole tub to himself, so as to give him much more space than the single tub, and this is repeated until he becomes quieter. Since the Japanese, except in small number, are not accustomed to the European tub, it seemed to me to be preferable, especially in case of insanity, not to subject the psychoses to an unfamiliar tub, which might add something to their delusional ideas, if it is possible to treat them in ways familiar to them. By the way, warm water is conducted to the tub through the adjacent partition under the floor, from the adjoining room, where it is heated by a gas-heater.

Each patient has an attendant. There are five rooms for patients, of which three contain six beds each. The floor of the room, which is accommodated with six beds, is divided into two parts, one containing three European beds, while the other half is provided with Japanese mats on which three futon (bed-cloths) are spread.

Fig. 2. View of same aspect after in use with gardens of leisure grounds cultivated. The person in white seated and one standing at the right end are assistant physicians. Three nurses can be seen with caps as well as one male attendant in long white gown. The remaining persons are patients.

Six patients live with six healthy individuals in one room. The patients are not left to themselves, as is the case with almost all asylums, supervised by a nurse; they find themselves in society with healthy people. This is especially intended for dementia precox patients who are considered to be in need of normal stresses.

So it will be easily understood that what may

seem to be too many hands are intended not only for the purpose of preventing dangers and accidents from the side of the patients, but they are themselves helping hands for the overpowered normal sphere in mind of the patients, as far as it is accessible. All these male and female attendants are put under the control of one female head nurse and four assisting female nurses.

I am in the habit of going to the wards with a stethoscope in one hand, even in case of not using it, for the purpose of presenting a symbol of the physician to the eyes of the patients. I think that this will make the more vivid picture of a physician than to go without, even for the patients who are able to recognize their physician, since their mental life is, as is well known, apt to undergo momentary changes under the sway of unhealthy ideas. I try to feel the pulse of each patient whenever I visit him, from the same reason as well as from necessity. All these are meant to stimulate insight on the part of the patients.

To almost all the dementia precox patients are administered the saline infusions seven or eight times each at most at suitable stages.[1]

There is a calendar in each room, hung on the wall for the patients. I proposed this to the superintendent when I was an assistant in the Tokio Sugamo Asylum, and it was adopted. The calendar does not allow any pretense on the part of patients during the examination of time orientation in another room; and it may also be in use for attendants to notice whether patients are beginning to pay attention to the calendar or not.

Besides the rooms for the patients, we have one room for dispensary, one laboratory, and one small green-house for plants and flowers, together with rooms for physicians and nurses.

It seems to me the atmosphere is more pleasant in this system than it used to be in my country. There has been no suicide in this building since its opening. Many eyes and hands prevent patients at the first attempts at suicide. Besides this, the number of attempts at suicide has gradually diminished, year by year, showing fifteen cases in the first year, four cases in the second, and only three cases in the third year, the number of patients being double in both the second and third year those in the first year.

Fig. 3. Prolonged bath. The tub is marble. The pipe shown in one corner is now carried under the floor.

Let me quote here the truthful words of Dr. Edward N. Brush, "Among the special features of hospital care should be mentioned the influence of the institution," before I conclude this article with the following words: If the non-restraint

[1]Am. Jour. Insan., January, 1917, LXXIII, No. 3.

system is an ideal one in treating the insane it would be suitable to apply it to the construction of asylums, and time may show that certain separate symptoms which are ascribed to certain types

Fig. 4. View in ward corridor looking into gardens. The door at right leads to prolonged baths.

of insanity may turn out to be the results of the building in which the patients are treated and their general environment.

I express my gratitude to Dr. Edward N. Brush for his kind-hearted interest and encouragement shown to me.

The New Nurses' Home of Abingdon Memorial Hospital

By O. M. FRICK, R.N., Superintendent, Abingdon, Pa.

In our new nurses' house we have thirty bedrooms and a room with a sewing machine for the use of the nurses during their leisure hours.

We have a large room which is used for a class and demonstration room, and a large living room.

All the bedrooms are single. The furniture consists of a single bed, bureau, table-desk, with a study lamp and a colonial rug for each room. Each bedroom has a large closet, and a stationary wash stand with hot and cold water.

There are three shower baths and five bathtubs. A tennis court is laid out on the rear lawn. No diet kitchen was provided.

THE ROTARY INSTITUTE FOR CHEST DISEASES, VANCOUVER, B. C.

Intelligent Action by a Progressive City Club—Many Admirable Features of New Institute

By MALCOLM T. McEACHERN, M.D., C.M., Superintendent Vancouver General Hospital, Vancouver, B. C.

The province of British Columbia is taking more than usual interest in struggling with the problem of tuberculosis. Because it is an attractive coast city, a great many people go there for their health and, becoming attached to the climate, take up residence. The government of British Columbia has just arranged with all the hospitals in the province to set aside at least one-tenth of their beds for the advanced tuberculosis cases, and they have built sanatoriums for the incipient cases.

In the city of Vancouver, it was found that there was not sufficient machinery to round up cases early enough to prevent them from becoming advanced. This problem was taken up by the Rotary Club, who are a very live bunch in the city, and after ten months' investigation and planning it was decided to establish the Rotary Institute for Chest Diseases, through the organization of which there will be all possible machinery to cope with the question of early recognition of the disease and its prevention.

The members of the club themselves started out the campaign with a subscription of $15,000, and challenged the city of Vancouver to give the remaining $60,000. An energetic four-day campaign by the members of the Rotary Club resulted in the raising of the required amount, and in a few more weeks Vancouver will have a most attractive and up-to-date Rotary Institute for Chest Diseases.

This institute will be established in a downtown section where it will be easy of access to any person wanting to come. A free tuberculosis clinic will be held daily, which will diagnose doubtful or suspected cases early, and will administer such medical treatment as is required. It will supervise patients in their homes and serve as a clearing house for hospitals and sanatoriums. It will also provide a roof garden day school for children who have been exposed or in contact with tuberculosis in their families. In short, the idea is that of a "preventorium," together with the fostering and developing of an educational propaganda. The institute will be in charge of an expert who will devote his entire time to the work and will have a number of nurses and others to assist him. The building will be provided with sun rooms, dietaries, educational rooms, x-ray, laboratory, examining rooms, and all necessary facilities.

The campaign that has just closed was most successful financially, but, what is even more important, it carried the educational feature of the question of tuberculosis into every home in the city. The last day of the drive consisted of an expedition of four hundred automobiles and some fifteen hundred collectors, who called at every home in the city of Vancouver, and who, besides receiving subscriptions, told about the institute and what it was for. In this way a great educational campaign swept Greater Vancouver, which no doubt will bear fruit.

The reconstructed life is energy's second wind; what is mended is stronger than ever. We are sure of nothing that we have not taken apart and put together again. The sound life is one that in at least some portion of it has been rebuilt; not until a breakdown do we acquire endurance.—Stephen Berrien Stanton, "The Hidden Happiness."

THE STANDARDS OF HOSPITAL EDUCATION FOR INTERNS*

What May be Expected of the Hospital of Seventy-five Beds and Over—Clinical and Laboratory Service Which the Hospital Should Furnish

By JOHN M. BALDY, M.D., President of the Bureau of Medical Education and Licensure of Pennsylvania, Philadelphia.

HOSPITALS have been established in their several communities to fulfill various needs and being organized for the fulfillment of certain specific functions, they are oftentimes so constituted as not to be a proper place in which to educate an intern. In the effort to obtain a competent course of instruction for an intern this fundamental fact must be recognized, namely, that, in justice to themselves, in justice to their communities, and in justice to the prospective intern, not all hospitals can assume the educational function. Hospitals having been developed with one function in view, it becomes an exceedingly difficult matter in many instances in view of the vision of their managers, the funds at their disposal, and the character of their medical and surgical staffs, to assume a second and distinct function.

In a discussion of this subject it becomes essential to consider first some of the general fundamental facts in regard to internship, and the first one in natural sequence is the minimum number of interns any given hospital should employ in order that it may give a proper and comprehensive service. As a rule it may safely be assumed that a thoroughly satisfactory internship cannot be given with less than four interns. For the internship to be thoroughly satisfactory this is an irreducible minimum.

A basic internship grossly divided into four divisions, the laboratory service, the medical service, the surgical service, and the obstetrical service. The service should be a rotary one, the intern rotating from one department to the other. The service in the laboratory should be exclusively a laboratory service, with absolutely no other duty of any kind whatever, the intern being answerable to the chief of the laboratory and being entirely freed from any responsibility to the superintendent or head of any other department during this period. The effort to combine the laboratory service with one of the practical services in a thoroughly satisfactory internship has proved on actual trial to be a failure.

There should be a minimum of twenty-five beds per intern in the hospital. This would allow a hospital with a capacity of seventy-five beds to be classified as being competent to give a reliable intern service, for the reason that while the intern is serving in the laboratory he is not encroaching upon the average of twenty-five beds, which average would still obtain as far as the other three interns are concerned.

In considering the education of the intern it is impossible to lose sight of the interest of the service of the hospital. The two are so closely interwoven that both must receive proper consideration. If the hospital service is not properly cared for, then it goes without saying that the hospital cannot do its duty from the educational standpoint to the intern. Consequently, if the hospital have the minimum of the above four divisions of service, there must be available an intern for each service. Not only is the service of the hospital incompetently carried on if there be not a sufficient number of interns employed, but this same difficulty must be faced where a sufficient number of interns have been originally employed and one has been discharged or has left the service. The usual course pursued by the hospital under these circumstances is the dividing up of the work of the departing intern among those remaining, to the disorganization of the hospital service itself and the interruption of the proper interests of the intern. Under these circumstancs there is but one thing to do in order that the usual routine of the interns be continued uninterruptedly, viz., that the service deserted by the departing intern be left entirely without the service of an intern, the work to be supplemented by the staff in that particular department. It is far better, both for the hospital and for the intern, that each service shall in rotation be without an intern for two or three months, rather than that the whole system be disorganized. If it be contended that an intern having departed, his service must be assumed by others, the answer is perfectly apparent: what would be done if all the interns left? Surely no one would seriously consider closing the institution. An institution pretending to give an education to the intern which will exploit its interns in any such manner deserves to be left without any. The contract is a mutual one and the day has long since passed when labor can be exploited; surely intern service is not to be considered lower-grade service than any other labor.

This preliminary statement as to the number

*This paper is the second in a series, by various authors, on the standards of the various classes of special hospitals. The first article, "Standards for a Children's Hospital," by Stafford McLean, appeared in the May issue.

of interns and the division of services of the hospital is purely tentative as a working basis on which to consider the whole subject of intern education. It does not mean that a good internship could not be obtained in a smaller institution or one organized on a somewhat modified basis. It does mean, however, that any hospital organized on a different basis or smaller in capacity of service is an exceptional hospital of its kind in which a satisfactory internship may be obtained. The genuine test point of the efficiency of such a contemplated service will rest entirely with the personnel of the medical and surgical staff and their willingness to give extra service and attention to the intern. I am sorry to say this is practically found in but exceptional cases. It is perfectly conceivable with a limited hospital staff composed of men who are practicing medicine scientifically, enthusiastic and imbued with the spirit of teaching, that an intern might obtain a very excellent service with an institution of even twenty-five beds and the proper scientific laboratory adjuncts. There are such institutions ranging from twenty-five to fifty or sixty beds in which there are two or three physicians working, one of whom is familiar with laboratory and x-ray routine, wherein a single intern is being most excellently instructed. It must be remembered, however, as already stated, that these institutions are so rare in comparison with the total number of hospitals existing that, in considering the general proposition of a proper internship, it is necessary to leave them out of consideration, merely noting the possibility of the exception. Such an institution being an excellent one today, a single member of the staff disappearing for one reason or another, the institution becomes an impossibility from the intern viewpoint tomorrow. It is not necessary to consider the service of larger hospitals by themselves, but like the very small ones, they may be dealt with as deviations from the standard. After all, they are largely to be considered as in the light of multiplications of a basic unit.

A prerequisite of an intern service is the organization of the hospital service. It may be stated in general that all special hospitals may be excluded from consideration, excepting as fulfilling a partial function. For instance, an eye hospital could only be given credit for a certain number of months on a general intern service. The same may be said of an obstetrical hospital, a children's hospital, etc., as well as those institutions which purport to admit all classes of patients, but which as a matter of fact on investigation are found to be confining 70 percent to 80 percent of their service to surgical work. Such institutions should be classified as special hospitals and dealt with on a basis of a limited amount of credit. In other words, no hospital can be considered as giving a thoroughly satisfactory intern service which does not have the four principal departments already named: medical department, including all the medical specialties; surgical department, including all the surgical specialties; obstetrical department; laboratory departments.

It may be stated at once that any hospital which has not a fixed and definite medical and surgical staff assigned to the work in the various departments cannot be considered as competent to give a satisfactory internship. This practically excludes all so-called open hospitals. It does not, however, exclude that type of hospital which has a fixed staff at least of the four departments named, but which in addition allows outside physicians to admit patients to their private room departments, it being thoroughly understood that such private beds are not counted as part of the minimum twenty-five to each intern. In the main, the so-called "one-man hospital" will have to be excluded, excepting, as already intimated, as in the class of exceptional institutions. The value of the service in such an institution depends entirely and absolutely upon the incumbent generally known as medical superintendent or chief surgeon. Not only is the organization of the staff in such a hospital fundamentally faulty for intern teaching, but it is a well-known fact that most such institutions are purely surgical hospitals and therefore are objectionable on this second ground and should be classified among special hospitals, being given a limited amount of credit for their service.

Returning then to our basic hospital—a hospital with the four departments already named, manned by a definite medical and surgical staff appointed because of their experience in the various lines of work to which they are assigned, with a minimum of seventy-five beds, with a minimum of four interns (one for each department)—we are in a position to consider what may be expected from such an institution, first, in the way of equipment; second, in the way of instruction of the intern. In dealing with this element of the subject it will be very shortly realized that the problem to be solved is largely one of administration and not one of finance. Let no one be deceived in this matter. Little difficulty will be found with boards of managers when once the advantages and the necessities are properly brought to their attention; as staff members are found to realize the advantages opened to them and the demonstration is forthcoming that the service rendered is redounding to the advantage of the patients, the necessary funds will willingly

be provided. The great and crying reform, sad to tell, is development of efficiency and intelligence of service by those already compensated—the superintendent and the staff members.

If the fundamental truth of the matter be grasped, it will become evident that the movement for the education of the intern means also a movement in the direction of the education of the staff, as well as of the superintendents. In this respect, where this movement has been put into intelligent force, great improvement is already noted. Where physicians had a minimum of laboratory knowledge and were difficult to secure, more and more are becoming available and not a few have given up the practice of medicine and are devoting themselves to the scientific side of the profession. Where primarily it was difficult to secure technicians, schools have sprung up for their instruction, and they are becoming more and more numerous. The development in the x-ray personnel has progressed with equal satisfaction, and few communities exist in which there are not one or more physicians competent to undertake and carry on this work.

Staff men in general are becoming more and more awakened to their responsibilities, both to the patient and to the intern, and are in consequence rendering more satisfactory service; the general improvement in the attitude of superintendents is marked and the influence on the attitude of hospital managers is shown by the sudden disappearance of many former inflexible superintendents.

EQUIPMENT

First, as to equipment. The equipment of hospitals in general need not here be considered, attention rather being given to certain specific departments, namely, the laboratories (pathological and x-ray), the obstetrical department, the anesthetic department, the record department.

Pathological Laboratory.—This laboratory should be equipped not only for the conduct of ordinary chemical and microscopical clinical diagnosis (urine, gastric contents, feces, sputum, cerebrospinal fluid, transudates, and exudates), but also to conduct bacteriological and serological examinations and tissue work, as well as a competent amount of physiological chemical work. Equipment for the conduct of all this work may readily be obtained for a sum within the limits of a thousand dollars.

The head of the laboratory should be a physician competent to conduct all of the various tests conducted in modern clinical medicine under these various headings. If it be possible that he devote his full time to the work of the laboratory, it may be possible for him to do his own technical work. Ordinarily, however, a hospital of the size under consideration cannot afford or has not available such a man. The solution, therefore, lies in the employment of a technical assistant. A laboratory technician is easily possible to any hospital which may claim to have the possibilities of intern instruction. Such material may be drawn from among trained nurses or young women having had a high school, or, better still, a college education. Five or six months in attendance upon a school or laboratory instructing technicians, would prepare the technician to perform competently all of the technical work of such a laboratory as is under consideration, even including Wassermann work. With such an assistant working full time in the laboratory, it would be necessary for the physician at the head of the laboratory to devote but a few hours a day to interpreting the results and giving instructions for coming work. The services of the technician would cost the hospital not more than from $50 to $100 a month. Her education can be secured for an outlay of several hundred dollars, involving an expenditure of time of from five to six months. The services of the physician at the head of the laboratory may be arranged either on the basis of fees for the work done on private patients, or on the basis of fixed compensation, the hospital absorbing all fees. The latter is far the better arrangement. Such a laboratory conducted on strictly business principles can in most instances be made to pay the cost of upkeep and in addition at least the salary of the technician.

The plea has often been advanced that a physician with competent knowledge of laboratory work is not available. This is a real difficulty. However, if opportunity be not given the physicians who have a moiety of laboratory knowledge to utilize and increase that knowledge, the time will never come when there will be any improvement over the present status, and two decades hence we shall be just as deficient in competent laboratory men as we are at present. It is possible in communities containing two or more hospitals that a physician may give his divided attention among the several institutions. Where a community may not have available a physician familiar with the findings of the laboratory, an arrangement may be made with some nearby laboratory by which the tissue and other work, after being prepared by the technician, may be submitted to the head of this laboratory for his interpretation. A laboratory organized on the above plan is perfectly feasible and within the limits of possibility. If an arrangement be attempted whereby a neighboring or city hospital perform the work, the invariable result is that

the pay patients receive the benefit of the work, the ward cases being in part or more often entirely neglected in this respect, and the intern loses both the experience and the influence of the environment.

Roentgenologic Laboratory.—The x-ray laboratory may be completely equipped for picture work, treatment, and fluoroscopic work for sums ranging from $1,500 to $2,500. The personnel of this laboratory is generally easily provided for and compensated on the basis of the percentage of fees charged and collected for the work performed for those able to pay. The proper system is that the hospital render all bills and collect all moneys and pay over to the head of the laboratory such percentages as have been agreed upon. This division should provide a sufficient percentage for the hospital in order that the laboratory be properly kept up. The general average arrangement is 40 percent to the hospital and 60 percent to the head of the department, which arrangement seems to be satisfactory where it has been established.

Again, as in the case of the pathological laboratories, the cost of the x-ray laboratory to the institution is in exact proportion to the competency of the business management of the institution, and, provided the deficit in either department is not a large one, there should be no cause for complaint that the laboratories are an expense to the hospital. The upkeep and personnel of the kitchen, the upkeep and personnel of the boiler rooms, the upkeep and personnel of the superintendent's office and every other department of the hospital are an expense to the institution and are provided for from the general funds, and there is no reasonable theory that can possibly be advanced that would exclude the scientific departments from their proper participation in the general budget. If, then, the cost of these departments in one institution is more than in another, the business acumen of the individuals conducting the former institution should be critically examined. It may be stated and should be made fundametal that the institution that cannot afford the proper scientific departments as herein laid down has no claim whatever to an intern and has no right to consideration in considering the intern proposition. Things worth having in this world are rarely obtained for nothing. If the hospital expects the benefit of the service of the intern, then it must pay for it, and the payment asked in this connection is the proper opportunity and education of the intern. The organization as suggested is perfectly feasible for any institution of seventy-five beds or more, and any plea to the contrary is a specious one and should be disregarded.

Records.—This department should have as its head some proper employee of the institution upon whom shall center the responsibility for its intelligent conduct. A system should be developed by which records from all the several departments of the institution, including the laboratories (both pathological and x-ray) shall automatically come to this department in order that the responsible head may be in daily touch with the facts as to whether or not individuals throughout the institution responsible for making up these records are consistently attending to their duties. No patient should be discharged from the institution without the facts as regards his or her records having been checked up in the record department and any deficiencies in this respect promptly rectified. The system should be so developed that it shall not be possible for any single department in the hospital to neglect this most important part of its functions without the neglect being promptly noted. The system should be comprehensive enough to provide by cross-indexing that one may be able to proceed with equal ease from the record room (in the case of any individual patient) to the specimens, slides, and records kept in the pathological laboratory and to the plates and records kept in the x-ray laboratory, as well as to start from the laboratory records in these laboratories and to proceed promptly to the proper records in the record room.

Obstetrics.—The obstetrical department should be a distinct and separate entity. The department should contain a properly equipped delivery room, as well as a nursery. The head of this department should have one or more properly qualified assistants in order that a responsible physician may be present at all deliveries.

Anesthetics.—The anesthetic department, being an adjunct to the surgical service, belongs properly to and is generally provided for in the operating suite. The department should be organized on the basis of a responsible head, consisting of one of the surgical staff, together with an assistant anesthetist who shall be largely responsible for the actual giving of the anesthetics and the teaching of the intern. Such an assistant may properly be a trained nurse who after her training has been especially educated in the giving of anesthetics. The wage of such an assistant would be largely that of a trained nurse employed in the other departments of the institution, increasing in amount as her services become more and more valuable. Such an assistant in the smaller institutions is available for other services in the nursing

department at such times as she is not fully occupied with the anesthesia.

DUTIES OF THE INTERN AND HOSPITAL STAFF

Records.—The efficient keeping of records of the cases admitted to the house service is basically essential to the education of the intern. It is not out of the way to estimate that 30 percent of the benefit derived by the intern from his education in the internship is involved in the record-keeping, and the proper conduct of this function should be remorselessly insisted upon. No service of the intern can be considered competent which does not take into consideration history-writing. It is only by the intern's actually noting on the history sheet the history of the patient, the physical findings, and the conclusion arrived at as to diagnosis that the chief can obtain a competent idea, first, of the basic knowledge started with by the intern, and then of the progress he may be making, and consequently the degree to which he may be trusted. On the admission of a patient to the wards of the hospital it becomes the primary duty of the intern promptly to see the patient, to take the history as well as the physical findings, and to note them carefully upon the proper sheets. No excuse should be accepted for failure to perform this function, and the intern who neglects it should be promptly disciplined.

The notes thus taken should be available at the bedside when the visiting physician makes his first visit. In making his examinations the visiting physician should have in hand the findings of the intern, primarily note the results, and, during his investigation should compare and check up the intern's findings with his own, calling the attention of the intern to the discrepancies, and having him re-examine for certain points where necessary. The future conduct of the case, operative or medical, should consist in the discussion with the intern of the benefits of the treatment primarily applied, of the necessities for any change, and of the results looked for by such changes—all this in view of the actual notes as to the progress of the case made by the nursing and intern departments. As a routine, if the history is not prepared by the intern and ready for his chief, it should be the duty of the chief to decline to examine that patient (excepting in an emergency) and demand of the superintendent that the intern drop anything at which he may be engaged and proceed promptly to the taking of the history. Where it is understood that such action will result, this type of neglect will rarely occur in that institution. In no other way can the staff member obtain a competent control of the intern's service.

The history sheet of the intern should contain the O. K. of the visiting physician, and the fact that it is missing should be sufficient evidence to the record department that the staff member himself is not performing his proper duties either to the patient or to the intern. After the physician's attention has been called to the matter (if the offense be frequently repeated) the fact should be promptly transmitted to the superintendent and through him to the board of directors for their information and proper action. Any hospital which does not secure such service from its staff members fails administratively and cannot pretend that what they are being asked to do is a hardship—unless it be considered a hardship by the board of managers and the superintendent that they be called upon to give intelligent thought to the responsibilities which they have voluntarily not only assumed, but in most instances sought. The intelligent conduct of the history work on the part both of the intern and of the staff is an index to the competency of the work being performed on the patients, and slovenliness and neglect in this department is sufficient cause for the rejection of any institution in considering its availability for conducting intern education.

Laboratory Work.—In the laboratory department there should be demanded of the intern during his service that he first witness and then carry out under the guidance of the laboratory workers all of the tests performed in the laboratory; that he be given more and more responsibility as his experience warrants in making the simpler clinical tests such as the chemical and microscopical clinical work; that the tests he is performing in the advanced work be carried on concomitantly with the work done in the laboratory and his technic and results checked up with the work of the technician or the head of the laboratory. Complaint has been made that the results of this more advanced work cannot be relied upon when done by the intern. It is neither desirable nor necessary that it should be. He is there as a student, and as the work is being performed in the laboratory, the material is perfectly available for him to do it a second time and at the same time, in order to get the benefit of the check-up. This is certain: that the intern, having learned the laboratory methods in his school, having gone into his intern service and seen nothing of it as applied to the practice of medicine, having not carried out any of the technic himself, will leave that institution imbued with exactly the same ideas of the scientific practice of medicine as he has acquired in his environment, and it will be but a short time before the majority of such interns degenerate into practicing medicine on the

basis that it was practiced by their chiefs in the hospital. If, for instance, an intern in his hospital service has seen but two or three instances a week in which the Wassermann reaction has been made, he will leave that environment lacking a proper appreciation of the importance of Wassermann work in the practice of medicine and will conduct himself accordingly in his own future practice; and so in regard to all other tests. It is often stated that interns will not do this advanced laboratory work in the practice of medicine. This is true, and it is hardly desirable that they should. It is desirable, however, that they should carry with them into the practice of medicine the benefits of the stimulus of a scientific environment and a sufficient knowledge of the technic of the various laboratory methods in order, first, to know the importance of their use, and, secondly, to be able to judge of the competency of the men whom they employ in future to carry out these tests for their patients.

In the x-ray laboratory it should be one of the obligatory services of the head of the department to see that the intern accompany his patient requiring x-ray work to the laboratory; that he see and be instructed in the dangers of too frequent, too close, and too intense application of the rays; that he be made familiar with all the technic of the picture-taking and the treatment; that he be taught thoroughly the reading of the plates and the difficulties of interpretation; and that he take away with him a comprehensive idea of the development work.

This touches pertinently upon the responsibility of the staff members, heads of pathological laboratories and x-ray laboratories, all of whom not infrequently object to the trouble created for themselves personally by the presence of the intern and the necessity of his instruction. In employing such heads the hospitals are warranted in demanding under contract that this be an essential portion of their duties.

Obstetrics.—The ordinary service in the obstetrical department is an utterly incompetent one both for the benefit of the patient and for the instruction of the intern. It cannot be counted as a difficulty to any hospital, large or small, that it administratively sees to it that its staff perform its duty. The ordinary situation existing in the obstetrical department is: an obstetrician in charge. Patients applying are seen in the dispensary or receiving ward by the intern and admitted to the house at or about the time the patient falls into labor; or the patient is seen by the obstetrician in his own office and referred to the hospital to be admitted on some later date. Within a short period after the patient is admitted to the hospital, labor begins (she having been seen or not by the obstetrician) and she is sent to the delivery room. The chief is called on the telephone by the intern and notified of the fact. After a short talk, it is mutually decided that the case is a normal one and the intern is instructed to "go ahead." In case of subsequent difficulty and necessity of instrumentation the obstetrician is again summoned and then comes to his patient. In moderate-sized and small hospitals and only too frequently in large ones this is the sum total of the service.

Such service is utterly inadequate and incompetent from every point of view. It does not conserve the interest of the patient; it does not protect the interest of the hospital; it does not educate the intern—in fact, it is a detriment to the intern.

No hospital, however small, except in emergency, should admit an obstetrical patient to the wards and transfer her to the delivery room without her having been first submitted to all of the proper prenatal examinations by the chief or one of his responsible assistants. If there be a prenatal clinic (which should always be the case), the intern in attendance should in every case, either in the clinic under the eyes and checkup of the chief or assistant, make the prenatal examinations; or if the case be admitted to the house primarily, the intern should make this investigation, note his findings accurately on his obstetrical sheets, and, excepting in the case of emergency, such patients should not be admitted to the delivery room until the chief or his assistant has checked up the findings of the intern and called the attention of the intern to his mistakes, if any be found.

In no instance, excepting in emergencies, should the intern be trusted to conduct the work of the delivery room without the presence of a responsible physician, be the case a normal one or otherwise. It is important for the education of the intern that he be competently instructed repeatedly in the conduct of the normal case. Without a competent knowledge of the conduct of the normal, he is utterly unfit to decide as to the abnormal. For the hospital to tolerate that the question of normality or abnormality be settled over the telephone wire between the responsible physician and the intern is such a demonstration of incompetency in the way of management as is uncalled for in any institution which asks for consideration as being competent to give an intern service. The whole conduct of the obstetrical department of the hospitals of the country must be reorganized on the proper basis, and this should be one of the prime demands of anyone evaluating the service of a hospital for intern teaching.

Surgical Work.—In the surgical departments it may be asked of the hospital that it enforce on their surgeons that the intern at least be given a minimum opportunity for education of a type which will devote the first third of his service in the surgical department to the duties of the position of a second assistant; the second third to the duties of a first assistant and in the final third that he be given an opportunity by the surgeon to perform some of the less serious operations himself, with the surgeon assisting and directing him.

Anesthesia.—The intern is a student of anesthesia and cannot be considered in the light of being competent to be trusted in this service by himself as long as he remains in the hospital. His service in anesthetics usually occurs during his period in the surgical department. In the main, the paid anesthetist must be looked to to give the anesthesia, having the intern with her and instructing him up to the point she considers it advisable to trust him with the cone. Excepting in emergencies, she should be present always when the intern administers the anesthetic throughout his full term of service in that department. It should be her duty, when she is not herself administering an anesthetic, carefully to watch and instruct the intern, not only that he may avoid any complications, but that she may be on hand promptly to aid and to instruct him should any occur. The usual hospital system of having one of the staff or the paid anesthetist instruct the intern for a few days or a week and then turn him loose on his own responsibilities thereafter to administer the anesthetic as best he may is a pernicious one and one to be no longer tolerated. The private patients and the more serious ward cases should be handled by the anesthetist herself, and the intern should be confined in the acquiring of his experience to the uncomplicated ward cases.

As a minimum, it may be said that this rough outline of intern service is perfectly feasible in any hospital of seventy-five beds conducted by an intelligent board of managers, with a competent superintendent and with a staff of medical and surgical men who are worthy of holding such positions. It should be and can be demanded as a minimum, and without it no competent internship will ever be secured.

NURSES' HOMES—A PLEA FOR EFFICIENCY IN THEIR DESIGN*

Unpractical Ideas Exploited in Many Designs—Minimizing of Maintenance Charge a Vital Feature—Home Conditions and Facilities for Recreation Essential

By MEYER J. STURM, Hospital Architect, Chicago.

THE same process of reasoning and procedure seems to be applied at the present time in the building of nurses' homes as has been applied in the consideration of hospital buildings themselves. There seems to be, for some unknown reason, a tendency on the part of hospital authorities to rely upon very uncertain and limited sources for information as to what constitutes a properly planned and constructed nurses' home. Why there should be any marked difference between the designing and building of such an institution and of hospital buildings, or even a family hotel with modifications, is not patent. In the planning of the nurses' home, it is generally to be considered as an integral part of the entire institution.

There are many vital points to be taken into consideration, however, some specific and some universal, in the planning of nurses' homes, and it might be well to bring to the attention of the authorities who are contemplating such buildings some of the most salient of these facts. Heretofore, in the planning and construction of all buildings allied with hospital activities, the prevailing thought seems to have been that what was mostly to be desired was a complete institution without any reference whatever as to the future enlargement or expansion of the institution. Why this common error should have been perpetuated is beyond the ken of ordinary human intelligence, and has been one of the most difficult problems for those who have made hospital planning and construction their life work to overcome. There are probably causes for this perpetuation of shortsightedness beyond the control of those who were responsible for the planning of the institution in the past, and not infrequently at the present time.

Ordinarily, there seem to be two reasons for the mistake. First, there is or was a certain allotment of money to accomplish certain ends, and the most that could possibly be obtained toward the desired end was done for that amount of money without any thought of what was required for the future of the institution. As a matter of

*This is the sixth in a series of articles on nurses' homes. The first, "Nurses' Homes and Some of Their Requirements," by Olof Z. Cervin, appeared in January; the second, "Kistler Memorial Home for Nurses of Lock Haven Hospital," by V. Happersett and Louis H. Rush, in February; the third, "New Nurses' Home for Minnequa Hospital, Pueblo, Colo.," by R. W. Corwin, in March; the fourth, "The Helen Newberry Nurses' Home," by Harriet Leck, in April; and the fifth, "The Nurses' Home of the Norton Memorial Infirmary," by Arthur Loomis and Julius Hartman, in May.

fact very little thought is given to the present needs of institutions, judging by some of the examples that we have before us.

The other contributing cause is that committees as a whole are appointed, not for their knowledge of the problem, but because they happen to be representative or influential citizens or members of some organizations who are building such institutions. We need hardly enlarge on this point. There are few boards that have not at least one member entirely useless and in reality a menace to its progress, whose influence is great because he or she is put there with the hope that liberal contributions will be forthcoming in exchange for such "courtesies."

Committees have either consulted with some individual who has had some particular piece of work in mind, or with some architect who had never planned a modern nurses' home, if he had planned any home, and rely upon either one or the other of these sources, or upon the judgment of one individual, to gather all of the information necessary for the design of such a building. Usually the investigator is some business man who has not the remotest idea of what is required, and he brings, as his contribution, what he thinks should be done. It is manifest that in either case errors are bound to creep in, and individual ideas, instead of universal necessities, are the result.

It has come to be an axiom that no hospital should be built that has not adequate grounds for the extension of the buildings in the future. No hospital and its allied buildings should be planned that does not carry in its conception the right of growth or expansion, and every such institution should have as its most valuable asset the inalienable right of posterity to continue the work started, and to profit by what has been done before. Whether the building be a hospital proper, or whether it be a nurses' home, the rule applies with equal force.

There has been considerable discussion and much written concerning nurses' homes, and it is astounding to find that the opinions expressed in published articles give no adequate idea whatever of what the real requirements of a nurses' home are. The method followed seems to be that someone makes an investigation of one, or at the most, two homes, as near their locality as possible, and as there is no particular merit in any of these homes investigated, and the opinion of such a person is taken as being the proper solution of the problem in hand, necessarily the home is entirely inadequate in every particular. There is no universal panacea for the correction of our shortsightedness of the requirements of such buildings if this is going to continue to be the method of procedure.

Recently, as an example of this very shortcoming on our part to appreciate the problem which confronts us, there appeared an article which went so far as to advocate coal-burning incinerators on each floor of a nurses' home, and in addition to this, that such a frightfully antiquated installation as a dust-chute should be made, and that speaking-tubes should be put into the building, and—"confusion worse confounded"—that "call bells should be a necessary part of the equipment." What refuse would emanate on floors of nurses' homes that would require incinerators is far beyond comprehension, unless it were scratch-paper and envelopes, and these most assuredly could be put into waste baskets and properly disposed of. No one is decrying the usefulness of incinerators for the destruction of refuse in places whence it emanates, but why this should be on the individual floors of a nurses' home is not patent.

In the consideration of dust disposal and sweeping, an inexpensive and light-duty vacuum machine, placed in a convenient space in the basement, with connections on each floor, would be much more healthful, much more sanitary, manifestly more convenient, and surely more modern in its application in the removal of dust, than old-

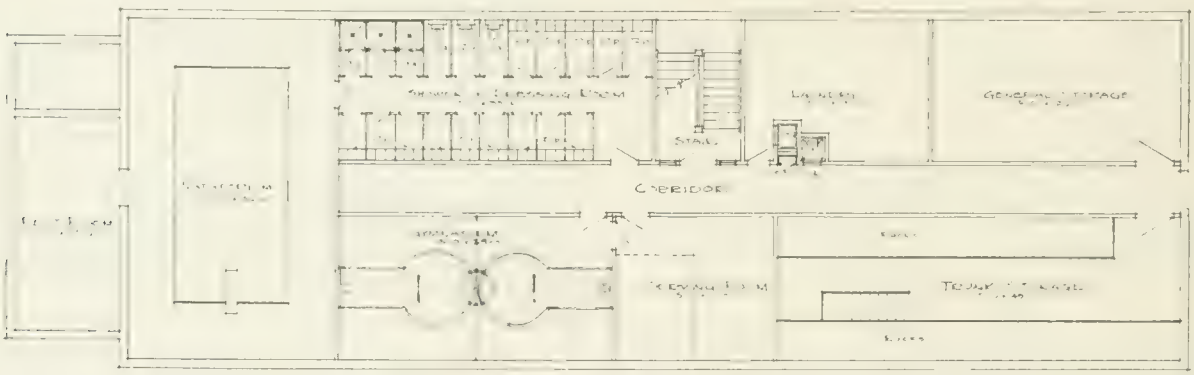


Fig. 1. Basement plan of a nurses' home embodying the essential requirements of such a home. Note the ample facilities for recreation. No kitchen is provided, but merely a serving room for use when the nurses entertain, etc.

fashioned brooms, carpet-sweepers, and, above all, dust-chutes. It is safe to say that 90 percent of the fires which started in the older type hospitals came from the dust-chutes, and, while practically all nurses' homes now are being built fireproof, the dust-chute is, from the very fact of this modernity, absolutely obsolete in such buildings, and still it is advocated by the author of the article. Apparently the investigator had found dust-chutes in some institution which was visited, and in his ignorance of the most trivial of modern requirements, took it for granted that it was the proper equipment of a modern nurses' home.

As for speaking tubes and bells, the intercommunicating telephone system is now universally used, and why the former should be recommended, and that within the last year, is another of the points in support of the futility of proceeding with the building of nurses' homes in the manner described.

Whether or not some particular head-nurse in a hospital, or the uninitiated in hospital economics, advocates a dining room and kitchen in a nurses' home, in order that the nurses may or must have all of their meals in the home, it must be patent to hospital administrators that such an arrangement would be far from ideal. Aside from the fact that it would be necessary to have two complete working forces in two separate kitchen departments, one in the hospital and one in the nurses' home, there would be the initial outlay of two entire sets of cooking apparatus and all of the paraphernalia necessary. This would take practically twice as much room for kitchen and storage for the care of all supplies for two as it would for one such department.

The question of a dining room for nurses need be considered only from the point that there is always more room in a hospital, properly planned, for dining rooms than there is in the nurses' home planned in a similar manner. A central requisition department for the allotment of supplies could be established that would serve both kitchen departments, but this would create double bookkeeping and control, if not endless confusion. Such a suggestion, however, has been made upon the very specious grounds that the nurses were given somewhat different food from that of the patients, and therefore it was proper to proceed with the double cost and double expense for this reason alone. Why the little difference in the preparation of food would have any particular bearing upon such preparation in one kitchen was not explained nor could it be logically. It could be shown, however, that a waste of money for equipment and the consequent double cost of operation was not the correct or logical means of solving the problem, or more important still, the minimizing of operating expense of the institution.

A great many advocates of the separation of the nurses' home from the hospital, even to the extent of one or two city blocks, have not recommended the separate kitchen. The purpose of separating the nurses' home from the hospital has been to get the nurses away from the atmosphere of the hospital entirely during their leisure hours so as not to compel them to live with their work twenty-four hours a day. A small kitchenette where nurses can prepare for themselves very light lunches at such time as they are not on duty, especially on Sunday mornings and late at night, is a great convenience, but this does not entail any extraordinary equipment or space, nor, what is more vital now in these times of the scarcity of help, the maintenance of a complete force and kitchen equipment for this purpose, the equipment including steam and plumbing connections and their operation and maintenance.

One of the most vital features in the minimizing of the maintenance charge, with the attaining of the maximum service which is being so ear-

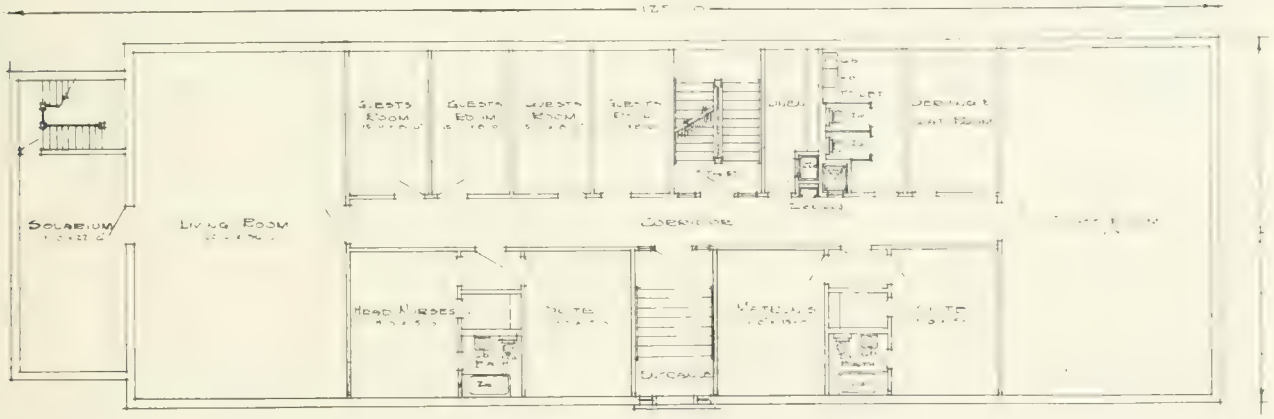


Fig. 2. First floor of the nurses' home, containing, besides the head nurse's and matron's suite, the class room, the living room, and a solarium, several reception or guest rooms.

nestly sought by all hospital authorities, is the necessity of stopping all so-called leaks. These are not the outcome of what one would designate as uneconomical handling so much as they are the result of some omission or some commission of error in planning which necessitates a dual service for the same end. While the amount of food consumed by a certain number of individuals, whether prepared in one kitchen or in two kitchens, would be the same theoretically, necessarily there must be a greater waste in this double service than there would be in the single. Take this in connection with the facts as stated above, as to the necessity for double crews to do practically the same work, and the double maintenance from coal pile to repairs, and the expense would very quickly mount to a point where it would create a decided deficit. However small such leaks are, whether they are confined to the purchase and waste of raw material, or to the cost of preparation, or to the cost of handling, they do enhance the cost per patient per day in the conduct of an institution which must be added to the general maintenance charge.

For these reasons, this general maintenance would be increased under the dual kitchen arrangement. Stress is laid upon this one point, inasmuch as there are many like suggestions being made constantly by the neophytes for the erection of nurses' homes. If such well-intentioned persons would only take into consideration the fact that the difference in cost of one cent per patient per day in the maintenance of one hundred patients was the interest at 5 percent on $7,300, and that this would have to be multiplied by the number of pennies that could be saved by a single system throughout the institution which took into account every item of maintenance, just as it would in any other business, there would be a vastly different procedure on their part in making such suggestions.

Not all hospitals are endowed; in fact, many of them have a considerable struggle to make both ends meet. Many hospitals are self-maintaining, but are not able to build up any great amount of surplus for investment to meet contingent expenses. It should be borne in mind, therefore, that for each penny saved, there is practically an endowment of $7,300 on the one hand, and a perpetual mortgage, if the saving is not made, upon which the interest is being paid in perpetuity on the other. It is quite a simple calculation to ascertain just how far this can be carried, and as a matter of fact there are really no limits to its extent within reason, as between the saving by economical methods and those which are manifestly extravagant.

It is not the object to call particular attention to the evils of any one recommendation by the uninitiated, but merely to show that with the installation of many of these extravagances in the matter of dual service, or even in the extravagances of single service, there is a very decided and unnecessary increase in cost of maintenance. In most discussions of nurses' homes, there is found a unanimity of opinion that all such homes must necessarily be built with an attic. The reason for this is not apparent. Buildings can be erected just as sightly and just as artistically, and assuredly at much less cost, without attics than they can with these useless spaces. In almost every instance, these attics are recommended as admirable places for either the storage of trunks, or for dormitories for the night nurses. In some instances it is even suggested that "in addition to these dormitories, *of course* the night nurses would have their own bedrooms." Why not an artistic and useful adaptation of the roof for outdoor sleeping, with all of the comforts which make this outdoor life so much to be recommended and desired?

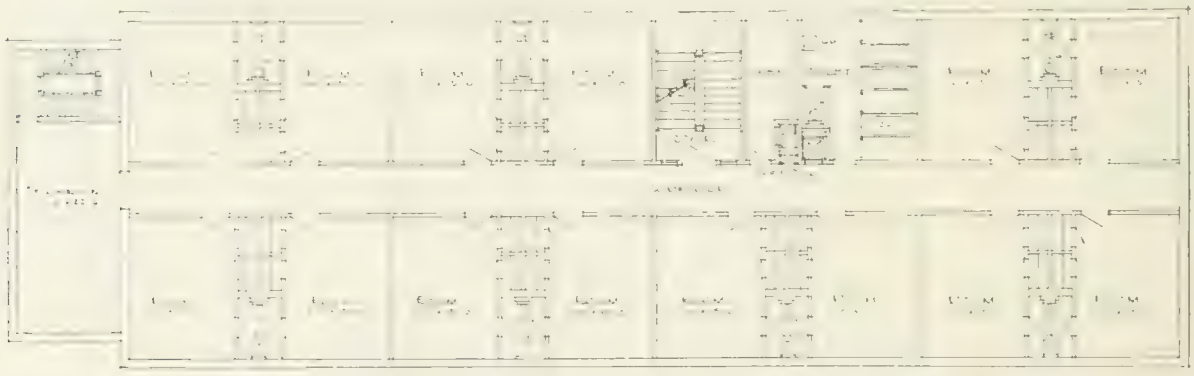



Fig. 3. Second and third floors of the nurses' home. Each bedroom is large enough for two beds.

It is not within the province of the architect to suggest the conduct of an institution. What he necessarily must do is to facilitate the operation

of the institution by knowing what is the minimum requirement for the maximum result. He need not know how nursing is done in detail, nor need he know the routine followed in admitting or caring for the patients, but he should know what is required for any general or specific purpose for *each and every* service in the institution. So in the nurses' home, he must be cognizant of the results to be obtained, namely, to make the nurses' home efficient so far as lies within his power, in giving to them the comforts and necessities required in such a home.

The problem of providing efficient nurses' homes must be considered not only from the psychological side, but it is most vital to the nursing efficiency that it be considered thoroughly from its practical and social aspect. For some unknown reason the one point that is usually lost sight of in the planning of such a building is the fact that it is a home, that the nurses have to reside in it for three years in most instances, and that, in addition to being their home for a great length of time, it must afford facilities for healthful recreation and social intercourse, and for necessary study for the nurses.

The hospital makes its own rules and regulations concerning the conduct of the nurses, but surely it is within the province of reason so to plan the homes that, in the observance of such rules, no little part of the whole nursing problem is dependent on the mental and moral attitude of the nurses themselves, and, if environment can make for better conditions, then most assuredly it should be given the most serious consideration.

While home conditions so-called should be provided, this is not sufficient. Good, healthful recreation, and, what is most vital, the facilities for the enjoyment of social life, should not be overlooked. It has been said that, when nurses are off duty, they are too tired to indulge in such recreation. Why nurses are differently constituted than the majority of the human race has not been explained by those who advocate this fallacy. The probabilities are that such nurses as have been observed as being too tired have no facilities for changing their entire mental and physical attitude by getting away from their work because the means to do so have not been provided in their homes.

There should always be grounds around a nurses' home sufficient for shady nooks, a tennis court, and plenty of grass and flowers, just as one would like to have about his own home. There should be provided a swimming tank in the basement of the building. This can be done at very small additional expense, and is most assuredly worth such expenditure. It may be necessary to use to some extent filtration in supplying such tanks with water, but, in the great majority of communities, this is unnecessary. There should also be provided a gymnasium with a fair amount of equipment, but especially arranged so basketball can be played. Either in the gymnasium or in the large living room, there should be provision made for a moving-picture machine, or a lantern-slide machine as the case might be, and most assuredly in the living room and library should be placed plenty of outlet plugs for reading lamps.

The floor in the gymnasium should be of wood so dances can be held in this room. If it is possible to do so, and funds are sufficient, on each floor there should be a small library or lounging room, and if possible a fireplace in this room where the nurses can congregate without the necessity of being continuously in their bedrooms when in the nurses' home and not on leave.

Little need be said about the toilet facilities for the nurses' homes, inasmuch as the ideal condition would be a space, under any circumstances, with seat and lavatory between each two rooms. The providing of tubs would follow ordinary equipment, except when there is a natatorium with its attendant showers, when fewer baths would be required. Above all, there should be plenty of closet room for the nurses' clothes. Where it is necessary to put two nurses in each room, in such cases the rooms should be large enough for this purpose, and each nurse should have her own closet, chiffonier, and small study table. The same rules as apply to the hospital proper for the equipment of such a building, its lighting, heating, and plumbing, would apply to the nurses' home. As a matter of fact, aside from the special features mentioned, there is practically no difference between such buildings of an institution. There should also be provided on each floor a porter's closet, linen room, and storage closet, also a clothes-chute. A small laundry, nicely equipped for the nurses' personal use, should not be overlooked. A dumbwaiter or elevator should be provided to take the laundry from the basement to the respective floors. This obviates the possibility of marring walls and woodwork by the carrying up and down of baskets, which are much too heavy for an ordinary attendant.

What must be borne in mind at all times is the fact that, besides being a place for the nurses to live, it is a home, and that it has in addition all of the requisites for the social side of the nurses' lives.

No plan which could be presented would em-

body all of the requirements of a nurses' home in such a plan. Necessarily, the vital consideration in the planning of such homes, aside from the adequate arrangement for the housing of the nurses and the minimizing of the cost of maintenance, would be in the equipping of such an institution with its permanent mechanical equipment, including the heating, plumbing, and electric work, and all of the accessories which are attached thereto.

However, the plans presented herewith, while a composite, embody in a very simple form practically all of the planned requirements of such an institution. The number of nurses to be housed would determine the size and the number of stories. The basement shows the adequate storage room for trunks, which is very accessible and which does not necessitate the trunks being carried up and downstairs into so-called attic spaces. It shows also the lockers, showers, and dressing rooms in connection with the gymnasium and the natatorium.

The first-floor plan shows the arrangement of the living room and class room at opposite ends of the building, and small so-called guest rooms in which the nurses can entertain their friends without the necessity of taking them into the nurses' living room. A small serving or coat room is shown directly off the class room, which can be used for the serving of light lunches if the class room is used at any time for entertainments.

The second and third floor plans, and any other subsequent floors or extensions to these, show the ordinary arrangement of these with toilets between the bath rooms, and other working departments mentioned above. The rooms shown are all adequately large for two beds. However, if one of these rooms is not set aside on each floor for a quiet room or for the reception of nurses who are indisposed, a special room should be provided for this purpose. In lieu of the ordinary library on the respective floors, there is a solarium shown on each of the floors which is to be used as a floor study or sitting room. If the building is to be made over three stories in height, it should be equipped with an automatic elevator.

It will be exceedingly difficult under existing conditions to give an adequate idea of the cost of such nurses' homes. Primarily, the problem resolves itself into the kind of construction which, in the consideration of the committee, should be adopted. Necessarily such homes should be built fireproof, and it is upon this basis that any and all calculations which can be made are based. The method of calculation on a cubic-foot basis, as well as that upon bed capacity, is manifestly as inadequate for a solution of the cost of nurses' homes as it would be in any other building, especially a hospital. The facility and accessibility with which labor and material can be attained is largely a determining factor.

Calculations have been made, and articles have appeared in which the actual cost given varies from 35 to 45 cents per cubic foot. Buildings of this character recently completed would indicate that somewhere in the vicinity of 37 to 39 cents per cubic foot for fireproof construction would be a fair estimate, but as stated, this would depend largely upon the elaborateness of the plan, the distance from and the facility in obtaining the commodities and labor required for the construction. Before considering the matter of existing costs in relation to existing conditions, the subject of cost-per-bed calculations will be disposed of by merely stating that such calculations for nurses' homes are as absolutely inadequate in every particular as they customarily are in considering the cost of hotels or hospitals.

At the present writing there seems to be locally, in most communities in the United States, sufficient building material and sufficient labor, much of the latter idle, for the construction of nurses' homes and hospital buildings, and it might be stated further that many contractors, and, assuredly, material men and labor, would be in much better position to erect buildings of this character at the present time than they will be at any time in the future for at least a decade.

In making a plea for efficiency for the designing of nurses' homes, a plea might be added also at the present time that if nurses' homes are required and necessary to the conduct of an institution, they had better be erected now, just as hospital buildings so required had better be erected now, than to wait for a readjustment of prices of labor and material in the future. Owing to the fact that we are now the possessors of practically the greater tangible world's wealth, there will undoubtedly be an expansion in money values, and this combined with the fact that immediately following the war there will be not only an enormous reconstruction period abroad for many years, but in this country at the present time there are practically being built no homes, no apartment buildings, no industrial plants not directly connected with war industries, and no other class of buildings of any character not erected for war purposes, it means that there will be a dearth of such buildings immediately following the war, and a consequent rush for labor and material necessary to fill the demand for them.

The problem itself is an economic one, and it is perfectly patent that the most propitious time to build, so far as the cost of buildings is concerned, is when building operations are at a minimum. If the means are at hand for building at the present time, and the necessity exists for such building, then most assuredly this is the time to build, not only from an economical but from a patriotic standpoint.

The entire subject of the erection of nurses' homes, therefore, resolves itself into one of efficiency in their design. If they are efficiently designed, they must typify and embody all of those essentials which make for home environment, combined with a nice adjustment for their economical construction to the end that they may be maintained at a minimum cost consistent with their highest purpose.

THE INSTALLATION OF A MODERN ROENTGEN EQUIPMENT AT A MODERATE EXPENSE

Equipment Capable of Doing the Highest Grade of Work Installed for Less Than Twenty-Five Hundred Dollars—Selection of Transformer—Fluoroscopic Equipment Improvised—Home-Made X-Ray Table

By V. M. MOORE, M.D., Roentgenologist, St. Mary's Hospital, Grand Rapids, Mich.

IT is no longer a debatable question that every institution claiming to be a hospital for the diagnosis and treatment of the sick or injured should have an x-ray equipment which is adequate for its needs. Many hospitals already have this most important diagnostic and therapeutic aid, while there are others which, while recognizing the pressing need of such an equipment, have been unable to avail themselves of it on account of the financial problem involved. It is with the hope that our experience in this regard will be of some help to other hospitals that the following article is written.

Our problem in a nutshell was this: We needed a complete x-ray equipment for our hospital, but we were not able to spend $5,000 for it. It was decided that if an x-ray department were installed all apparatus purchased must be such that the highest class of work could be turned out. Furthermore, it must be able to care for every kind of work that might properly come to an up-to-date x-ray laboratory—in short, the best must be had and at a price within reach of our means. How was this to be done?

The first item to be decided upon was that of a transformer. It was thought best to buy the very best machine regardless of price. The reason for this is apparent to anyone engaged in this kind of work, for this is the power plant and it must be able to deliver the right quality and quantity of electricity to the x-ray tube, else, no matter how excellent the remainder of the equipment, the work will fail in the emergency. The machine selected was built for an alternating current of 220 volts and would draw 100 amperes through the primary winding. This necessitated the use of a No. 4 copper wire in the power line leading to it. To make doubly sure that the line would not drop in voltage, a No. 2 wire was used instead, which allowed sufficient surplus of copper. Care was here taken that it should not be connected with the same line as the hospital elevator, because the latter might cause a drop in voltage. A word of caution might be inserted here, and that is to be sure and get estimates from several electrical houses before letting the contract for the installation of the power line; otherwise the cost of such work might come as an unpleasant surprise. Furthermore, insist on a larger wire than the electrician thinks necessary, because most electrical men do not understand the necessity for a sustained voltage.

The next important item to consider was that of equipment to do proper fluoroscopic work. Our ideal here could not be attained because such an equipment would cost in the neighborhood of $1,400. Here we began to improvise, bearing in mind, however, that the quality of work should not be sacrificed. We were able to buy a slightly used vertical roentgenoscope without the fluoroscopic screen. This we purchased for $200. A new tube stand was then considered, and the best one found was purchased. The x-ray tube question then came up. Should we purchase gas tubes at $35 apiece or should we spend $125 for a Coolidge tube? It was decided to buy the latter, because of its greater durability and accuracy in technical work. Just a word here in regard to this new type of tube. All x-ray tubes previous to the discovery of this tube depended upon the presence of a partial vacuum, and the quality of the rays generated with a given voltage was dependent upon the degree of the vacuum in the tube. Unfortunately, as the tube became hot during use, the vacuum in the tube would vary, thereby giving a different quality of rays which

became more or less penetrating according to conditions prevailing at the time. This made it very difficult to follow a standard technic, and the occasional beautiful plate did not compensate for the many other mediocre ones. With the advent of the Coolidge tube a new principle was evolved. In this tube a nearly perfect vacuum was produced—so great, in fact, that no current would pass through it unless heat were generated within the tube. This was accomplished by means of a lighting filament on the cathode and generated by a storage battery or other suitable means. With this tube a given voltage will always give the same quality of rays provided the same amount of heat is generated inside the tube. For this reason it is comparatively easy to duplicate the results of successful work if a record is kept of the different factors concerned. For these reasons it was thought best to install the Coolidge tube with the necessary controls. A stereoscope and a developing tank constituted the remainder of the large items of expense.

Room for x-ray work, containing an equipment costing $2,346.55. Note the home-made table for a horizontal fluoroscope and also for use as a table for the usual radiographic work.

We have refrained from mentioning the question of a table because it is here that we have effected a modest saving. I conceived the idea of constructing a table which would serve as a horizontal fluoroscope and also as a table for the usual radiographic work. After studying the principles involved in tables on the market it required no great amount of ingenuity to draw up plans and to construct one that would be satisfactory. The table was made entirely from wood with the exception that several items were purchased from companies making x-ray equipment. The illustration should be sufficient to show the simple principles involved. The tube box was made of veneer and covered with lead of suitable thickness. This box was set on rollers which moved on a track crosswise of the table. This track rested on a platform, which in turn moved longitudinally on another track, and by this means the tube could be placed in any position under the table. The tube-holder from the vertical roentgenoscope was utilized and was suspended from the roof of the box. A shutter was made which was in the shape of a round-headed paddle with a hole about 3 inches in diameter. This was covered with lead, and the end of the handle fastened to the box. By means of a wire which projected to one side, the shutter could be thrown in or out of place. This afforded two different-sized openings and it proved to be very satisfactory. The tube was connected with the overhead system by means of special insulators made expressly for the purpose. These projected from one end of the box, and to these wires could be attached from trolley reels mounted upon a cross arm, which is seen in the foreground of the picture. The overhead wires could then be dropped to these trolley reels and complete the connection. While it is realized that exposed wires such as this are somewhat dangerous, by using a little precaution this danger can be avoided. A tunnel plate-holder was set in the top of the table and was used during fluoroscopy or as a holder of stereoscopic plates. The table was put together entirely by screws and finished with drop black and non-metallic shellac. This finish successfully insulates the patient, even though the wires underneath come in contact with the legs of the table. I constructed this table at odd times, and, this being my first attempt at carpenter work, it would seem that anyone with a knack for mechanics could construct one equally efficient. The imperfections of such a table are obvious to one familiar with this kind of work; however, it served its purpose and is earning money with which to purchase a combination roentgen table.

The alterations which were necessary in the rooms would not be of general interest and entailed no great amount of expense. Overhead steam pipes had to be removed, electrical wiring installed, the door between the transformer room and the radiographic room leaded and a lead-

glass window inserted, and numerous other small details carried out which need not be mentioned. An overhead switch was made by a carpenter to connect the vertical fluoroscope which stands at the other end of this room. The stereoscope was placed on the shelf of a cupboard on the right. This cupboard was already built in and serves many other purposes. The total expense of the installation was $2,346.55. This amount includes every cost, and the following things are included:

1 No. 1151 Universal transformer	$1,000.00
1 Rheostat for Coolidge tube	25.00
1 Storage battery for Coolidge tube	28.50
1 No. 3 stand	215.00
1 Fine focus Coolidge tube	125.00
1 Medium focus Coolidge tube	$ 125.00
1 Broad focus Coolidge tube	125.00
1 Coolidge ammeter	20.00
1 Insulated shelf	3.50
1 11 by 14 intensifying screen and cassette	47.00
1 Cathode terminal	1.25
1 Complete cylinder	13.00
2 Trolley reels	8.50
1 Pair lead rubber gloves	7.80
1 Lead rubber apron	12.00
1 Plate-holder	15.00
1 Plate-marker	5.75
Wiring service for x-ray outfit	95.00
Official inspection fee	3.50
Vertical roentgenoscope	225.00
Stereoscope complete	98.50
Developing tank	55.00
110 V. A. A. 60 cycle teleflasher	102.25

THE OPEN COTTAGES AT KANKAKEE STATE HOSPITAL

Individual Study Necessary in Treatment of the Insane—Liberty of the Grounds Seldom Abused by Patients—Selected Groups of Trustworthy Patients Permitted to Live in Open Cottages Without Nurses

By EUGENE COHN, M.D., Medical Superintendent, Kankakee State Hospital, Kankakee, Ill.

IT seems to me that in no class of human afflictions is a sympathetic understanding of patients' feelings more essential than in those cases suffering from mental disorder. In a general way, the insane possess all the emotions, feelings, likes and dislikes possessed by the average sane. The old way of treating the insane in purely custodial fashion for the purpose of housing them, while protecting them and society as well, is from the modern viewpoint quite insufficient, unscientific, and inconsistent with the purpose in mind, namely, the relief and treatment of mental distress or mental disorder. In the care of insane patients the same great principle that should be employed in the care of any other types of patients must be borne in mind, namely, the study of the individual. When studying individuals, the careful and experienced physician will soon learn the safe extent of liberal and humanitarian treatment to which each patient is properly entitled. Granting that a given percentage are not entitled to certain liberties, we find that a large percentage can be so trusted and with comparative safety to themselves and society.

And so this institution has more than 50 percent, or about sixteen hundred, of its patients enjoying the liberty of the grounds without being guarded by either attendants or nurses. Such patients are permitted to go out by themselves in single paroles or, in more instances, in so-called walking party paroles, meaning thereby that from three to five patients go out in groups, each one responsible for the group and the group being held responsible for the one, all stating upon their honor, before being given this privilege, that they will not take advantage of the liberty granted. The many benefits thus derived by the patient are obvious. Escapes are very few.

Finally, it was deemed wise and safe so to group and classify the patients as to place in certain cottages only such as after proper study were considered entirely trustworthy. In this manner it was found possible to have in this institution seven open cottages in which the patients live like a large family, each cottage having a housefather or housemother, who is also a patient. This patient is on duty eight hours a day and is relieved by another patient at stated hours. These housefathers and housemothers, whom we call auxiliary patients, are not given disciplinarian rights or privileges, but simply look after the wants or details of the wards, acting as a go-between for the general nurse or doctor in charge. One nurse at certain intervals makes the rounds on all these cottages in order to supervise the care of the patients, but especially to check up the supplies and material needs. The patients on all these wards are of such type that no trouble or disturbance is expected.

I have made use of this system now for over six months and have not had a single instance of disturbance. These wards are among the happiest and best regulated in our institution. The patients, realizing that they are being trusted and depended upon, are seemingly anxious to prove worthy of the confidence placed in them. Any sud-

den case of illness or necessity is immediately reported by the auxiliary patient to the nurse or doctor. The condition of the cottages as to cleanliness is immaculate, and the general order and contentment of the patients are all that can be hoped for in an institution of this kind. They appear like a large contented and well-regulated family and are doing better than under any other system with which I have become acquainted in my twelve or more years of experience in hospital work among the insane.

Incidentally, the economic side of this system must be borne in mind, especially now when everything costs much and it is very difficult to obtain help on account of war conditions. These seven cottages, which under ordinary conditions would have a personnel of, say, 20 to 22 attendants or nurses, are now having a personnel of but 2. This institution has quite a number of open cottages besides the seven mentioned, but these particular seven are without regular attendants or nurses, excepting as stated previously.

The secret of our success gained in the following out of this system depends, firstly, upon the proper classification and careful study of the patients placed in these cottages; secondly, upon the realization on the part of the management that the insane are essentially human, and that many of them have a well developed sense of honor and are able to realize their obligations towards those who place confidence in them.

While it necessitates, perhaps, a somewhat intense moral conviction and determination on the part of the management to evolve a system considerably at variance with the accepted theories of the past, it seems justifiable in the light of modern thought to follow out the plans which prove most efficacious for the care of our unfortunate charges according to our individual institutional convictions and experiences. Even though some unforeseen unfortunate incident or accident, such as is bound to be met with occasionally in hospitals of this kind, should happen in connection with any one of these cottages (which, however, has not as yet occurred, and is not expected to occur) the comforts and benefits accruing to great numbers of these patients, through the proper carrying out of this system, should be well considered in justification and defense of such criticism as might thereby be incurred.

This institution also utilizes auxiliary patients, especially selected, in many of its other departments. For instance, a certain number of men and women are selected as patrol auxiliaries. They spend given hours of the day about the grounds and are detailed to see that other patients less reliable than they do not wander away or get into mischief. Other auxiliary patients are in charge of details doing outside work; still other male patients assist female employes on male wards in the general conduct of the wards. I could continue in this way in a much more lengthy account, but I believe that at all times, and especially during these days of stress and difficulty, patients can be used to assist in practically every department of the institution, provided proper judgment is employed on the part of the management.

I wish to emphasize again that in no instance is any patient given disciplinarian authority. The patient is always held responsible to some employee or officer, and is never permitted to use any tactics that could be construed as unkind or in any way undesirable.

Drying Versus Canning as a Source of the Winter's Vegetable Supply

A California hop-grower, Mr. E. Clemens Horst, who since the outbreak of war has devoted his extensive acreage to the growing of vegetables and his drying plants to the dehydration of these crops, furnishes us with comments on the advantages of drying over canning which should be of interest to hospitals which put up any considerable proportion of the winter's supply of vegetables and fruit. He says:

"When dried, the vegetables are not heavy and they can be compressed into blocks without injury to their texture or quality. Accordingly, a large quantity can be stored, occupying but a fraction of the space needed for fresh or canned varieties. It is not necessary to use expensive tin or wooden containers for the dried vegetables, as paper cartons will do. As vegetables contain from 80 to 95 percent of water, the drying of them reduces the weight and bulk from 20 to 1 in the case of tomatoes to 6 to 1 in the case of potatoes.

"As there is no patented process involved in the drying of vegetables, anybody with proper equipment could do it, and community dryers can be established in different localities to evaporate the product from that section. The cost of dried vegetables, therefore, should not be high, and the consumer would be able to have at all seasons of the year the necessary vegetables to supply the mineral salts required by his body.

"Another saving which would follow the dehydrating of large quantities of vegetables at a central drying plant would be the utilization of the tops of the vegetables, now thrown away, and the culls, peelings, etc., resulting from the preparation of the articles for drying. The green tops could be fed to stock or pigs, and valuable by-products, such as cream of tartar, could be made from potato peelings."

Many hospitals, especially those which grow their own vegetables and fruit, would perhaps find drying a suitable method of saving this surplus for winter use.

Thirty representative citizens of Falls City, Neb., held a banquet last month, at which they discussed and formulated plans for a campaign to interest the citizens of the community in the establishment of a hospital. Mr. A. G. Shubert is president of the board of directors.

A thankful heart is not only the greatest virtue, but the parent of all other virtues.—Cicero.

NEW MATERNITY BUILDING FOR WEST PHILADELPHIA

West Philadelphia Hospital for Women Adds Special Pavilion for Maternity Patients—Some of the Details of Construction—Exclusively in Charge of Women

By LADYE W. BURROWS, Member of the Board of Directors, West Philadelphia Hospital for Women, Philadephia.

IN April, 1917, there was opened at Forty-First and Parrish streets, Philadelphia, the Elizabeth L. Peck Maternity Building of the West Philadelphia Hospital for Women. This is a handsome structure of three stories, 93 feet long by 47 feet in width. It faces to the south, with a broad, open lawn extending from its doors. It is on high ground, in a residence section of the city where there is plenty of open space, free circulation of air, relief from the sounds of heavy traffic, and an absence of odors and other unpleasant features commonly associated with closely built-up neighborhoods of almost every large city.

The building cost, in round figures, $100,000. It is part of the West Philadelphia Hospital for Women, and its affairs are conducted by the same board of managers. Its superintendent is a woman, as is its supervisor of nurses. The nurses are women. The resident physician is a woman. All members of the board of managers are women, as are the members of the medical staff. The only men who have any part, in any way, in the conduct of the building are the janitors.

The Elizabeth L. Peck Building has the distinction of being the first structure in Philadelphia planned, erected, and equipped with a single eye to its use exclusively for maternity cases, except a building of the Woman's College Hospital at Twenty-First street and North College avenue, erected some years ago. The history of hospital development in the last quarter of a century has shown a growing recognition of the increasing need of special arrangements for the care of maternity patients in public or semipublic institutions. The state of Pennsylvania, by legislative enactment and by recommendation from its medical authorities, has placed special emphasis upon this class of medical service by hospitals which seek state assistance.

It may be said, however, that the West Philadelphia Hospital for Women was a pioneer in this field of activity. The care of maternity patients was included in the inception of the hospital by its founders, and it has been a foremost consideration at all times in the more than twenty-eight years the institution has been in existence.

Local conditions have had much to do with the development of the hospital's maternity service; in a sense, the new maternity building may be regarded as the logical outcome of these conditions. The first annual report of the hospital relates that when five women physicians met in the office of Dr. Comly Howell, in May, 1889, the necessity of founding a hospital for women was "forced upon them by the ever-extending limits of the city." There was no institution where women could be treated by women physicians nearer to West Philadelphia than the Woman's College Hospital. This was and is now east of the Schuylkill River, a distance ranging to as high as five miles from some parts of West Philadelphia. In many instances it was so far away that poor persons could not avail themselves of its services.

In 1890 West Philadelphia had a population of 99,182. At the present time it has a population of 247,928, or 16 percent of the city's total, scattered over a territory of 21.284 square miles, approximately one-sixth of the area of the city.

Under any circumstances, a hospital conducted by women for the treatment of women inevitably would have devoted a large amount of care to maternity cases, but the growth of the population of West Philadelphia has been an impelling consideration. In the first six months the hospital was in operation there was only one birth in the hospital. By 1896, however, it had become necessary to make special arrangements for maternity cases, and a separate building was rented at 4046 Ogden Street, adjoining the hospital, which had accommodations for five ward patients and two private patients.

In 1897, the first full year the ward was in operation, there were twenty-one births here. This number increased until, in 1902, another building was combined with the first, and the accommodations increased to take care simultaneously of ward patients up to the number of eight, besides seven patients in private rooms. The following table of the number of births annually shows how the maternity work of the hospital has increased in importance and value since then:

Year	No. of births	Year	No. of births
1903	66	1911	171
1904	62	1912	208
1905	78	1913	228
1906	81	1914	300
1907	115	1915	309
1908	143	1916	315
1909	115		

It can be seen from the mounting figures of the last few years how necessary an increase in facilities for maternity cases was becoming. The new

maternity building was erected almost entirely from private subscriptions. It is named for Dr. Elizabeth L. Peck, who was one of the founders of the hospital and its first physician-in-charge, and who now is senior member of the staff.

The building itself is as nearly fireproof as modern construction can make it. The outer walls are constructed of brick, the partitions of hollow tile, the finished floors of the wards of cement (treated to prevent the raising of dust), and the floors of the corridors and utility rooms of white terrazzo. The sills of the windows, the coved surbases at the junction of all walls with the floors, the thresholds of doors, the side walls of baths and toilets, and the stairs are of white marble. The doors throughout, with their trim, are of plain hollow steel, all the angles being rounded. The vertical angles of all walls and their junctions with ceilings and floors are finished with sanitary coves.

The two stairways are broad and of easy angle, one of them being enclosed with brick walls and connected through open balconies to the different floors in conformity with what is known as the "Philadelphia type" of enclosed smoke-proof stairway.

Every room in which patients are kept opens to the south. Those on the first and second floors open through double doors on to large porches where, in favorable weather, patients can sit or be wheeled in chairs. On the first floor is the main ward, a large pleasant compartment with twelve beds and accommodation for a few more in case of emergency. There is also a small office and a reception room.

There are two delivery rooms, one on the first floor and one on the third. The former is unique in that it forms a part of the "delivery suite" of five rooms, all of which can be reached, one from the other, without entrance upon the main corridor. The first room in this suite is the delivery room itself, which is equipped down to the smallest detail. The second is the sterilizing room. In this there is a commodious supply closet, comprehensively equipped. Adjoining is the labor room, where ward patients are taken when the hour of delivery approaches, and kept in seclusion until they are wheeled into the delivery room itself. It is a hospital practice to note the exact hour and minute of every birth.

From these rooms, a little hallway leads, still without touching upon the main corridor, to dressing and wash rooms for men and women physicians, each of which is equipped with a shower bath and lockers. Another room on this floor, although not of the suite, is the nurses' utility room, where are kept bandages, antiseptics, and other articles necessary in maternity cases, an appara-

Fig. 1. The new Elizabeth L. Peck Maternity Building of the West Philadelphia Hospital for Women, designed by Walter Smedley. The type of architecture is plain Georgian, and the material is old English red brick laid in Flemish bond with trimmings of Indiana limestone.

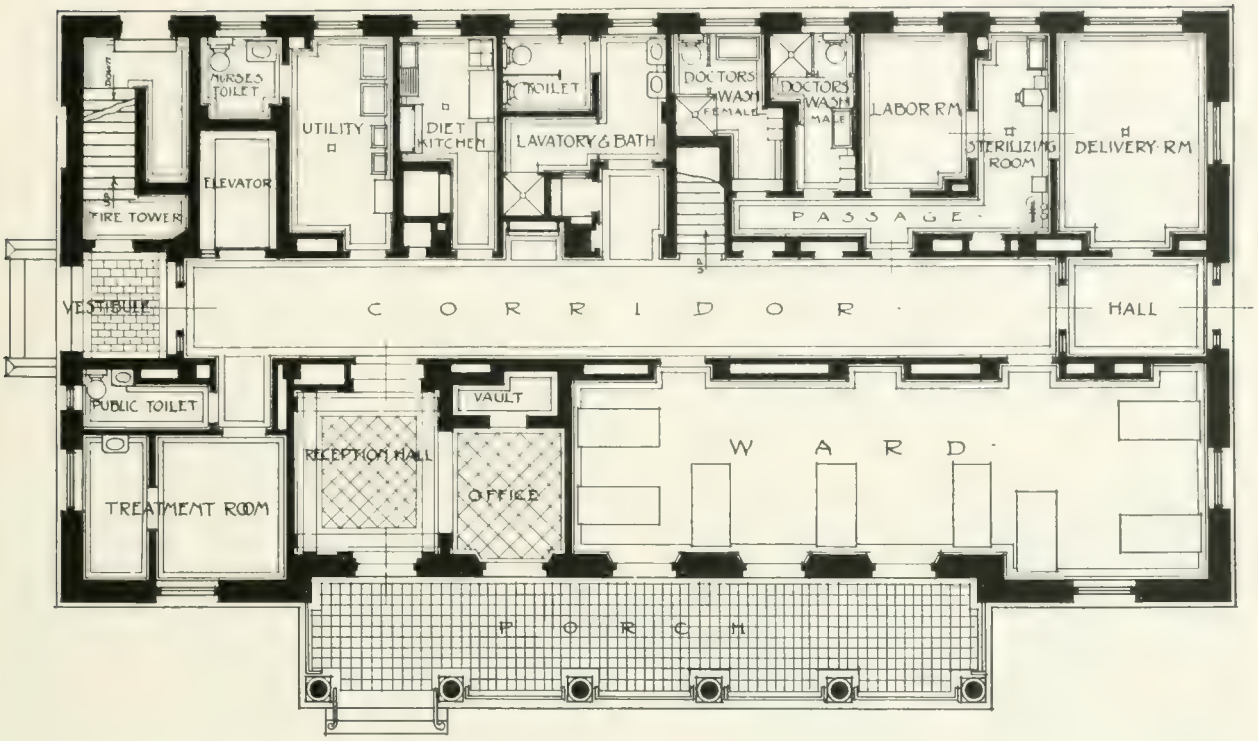


Fig. 2. The first floor of the maternity building of the West Philadelphia Hospital for Women. Note the arrangement of the delivery suite in the northeast corner, every room in which can be reached without passing through the main corridor.

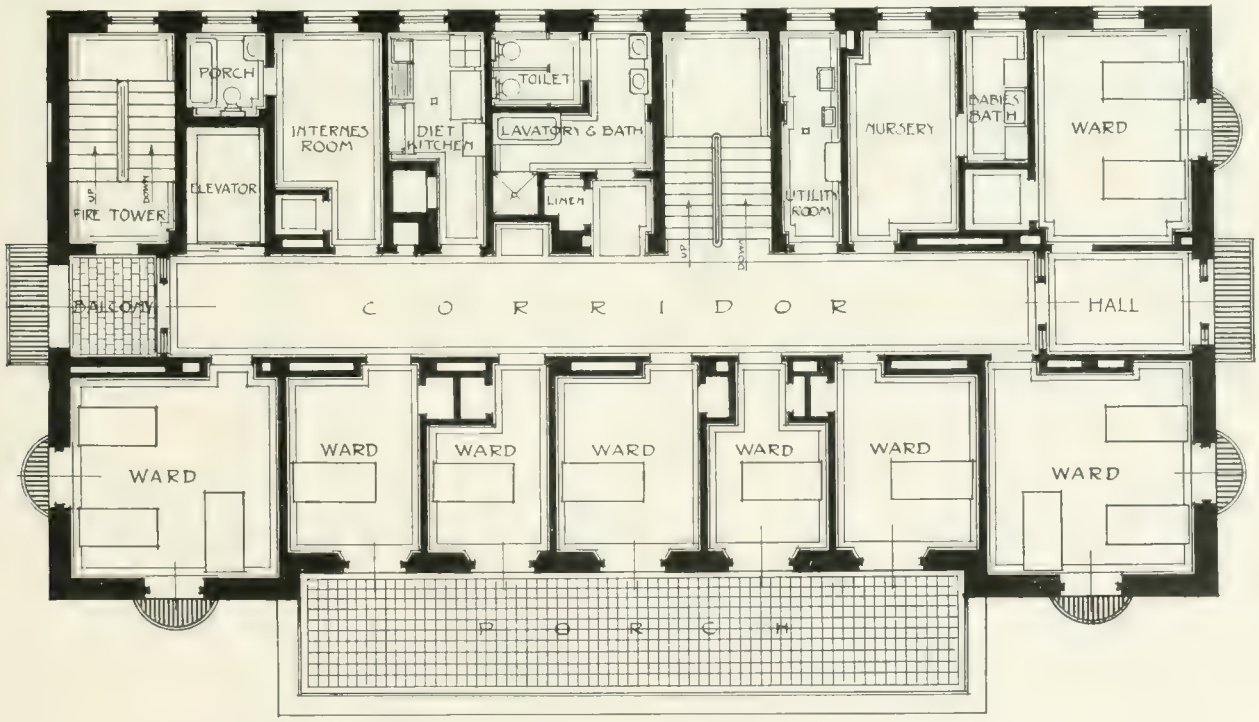


Fig. 3. The second floor of the maternity building, with two four-bed wards and six private rooms.

tus for the warming of utensils, and an incinerating oven. In each delivery room and in the rooms used for sterilizing purposes, drains are placed in the center of the floors.

There are two wards of four beds each, and six private rooms on the second floor. On each floor is a baby room in which each child has its marked crib, where it lies except at nursing time. Each floor has its own linen closet, and each its own linen. Each floor, moreover, has its own kitchen for patients on special diet. Meals for those on full diet are brought from the kitchen of the main hospital, and arrangements are made for such prompt delivery as to obviate the necessity for a second warming. An electric signal system, with red bulbs outside each door, has been

installed for the use of patients instead of the electric bell system used in the old maternity building. Each floor has a bathroom. On every floor is a waiting room for visiting friends and relatives of the patients.

The building was designed by Walter Smedley, architect, of Philadelphia. It is so constructed as to admit of an additional story. A basement extends beneath the entire area of the building, in which are the electric and plumbing mains and the heating and ventilating system. The basement is connected by an underground tunnel with the boiler house and other buildings of the hospital group.

The elevator is of electric type, with automatic electric control for each floor, and with safety devices to prevent the doors being opened except

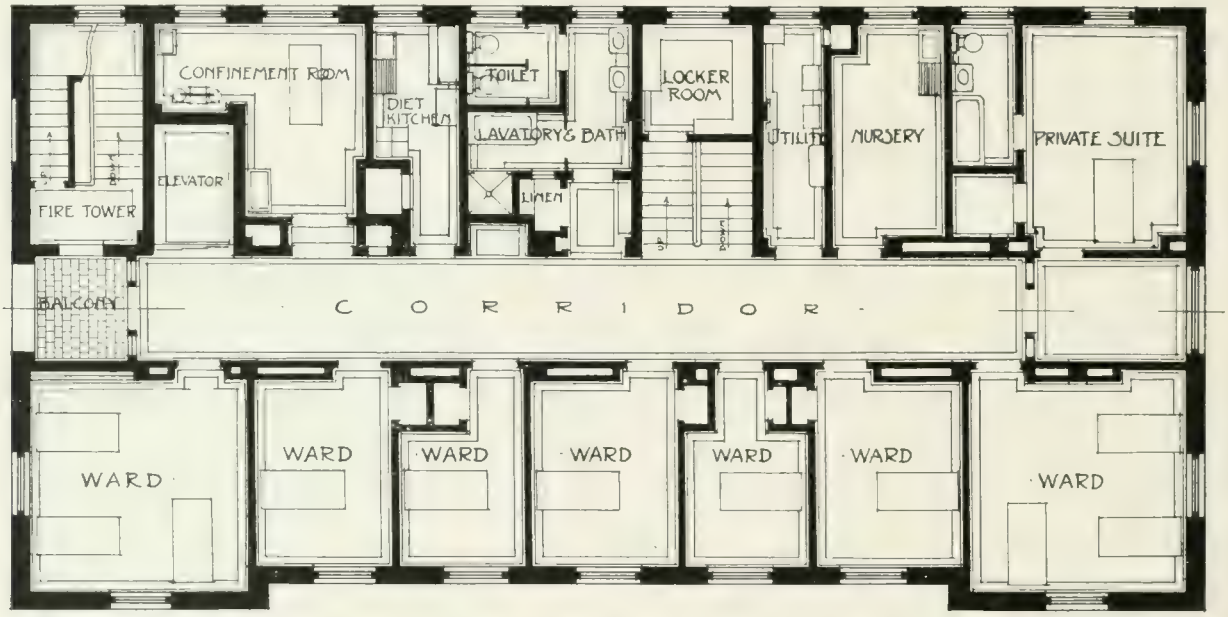


Fig. 4. The third floor of the maternity building, with seven wards, one private suite and a confinement room. Each floor has its own waiting room for friends of patients, its own nursery, diet kitchen, linen room, bathroom, etc.

from inside the car and when it is standing level with the floor. The heating coils are in the basement. Through them fresh, warmed air, under thermostatic control, is forced to the different apartments throughout the building. Each room is separately ventilated. The apparatus is so arranged that in summer an ample supply of fresh air can be delivered to all the apartments.

The exterior of the building has been treated in a plain, substantial manner, following the Georgian type of architecture. The wall facings are of old English red brick, laid in Flemish bond, with trimmings of Indiana limestone.

The administrative end of the work is in charge of a resident physician who lives in the building, a superintendent, and a supervisor of nurses. The superintendent is Miss Elizabeth Watson. There is a supervisor of the delivery rooms, who has entire charge of supplies, sterilization, and apparatus, and the training of nurses in room technic. This supervisor is present at all deliveries. There are six undergraduate nurses—seniors and juniors—in the building. One senior nurse is present in the delivery room at all births. A graduate nurse is in charge of each floor. Patients of men physicians are taken in the private and semiprivate rooms, but not in the general ward.

In the report of that first meeting back in 1889 occurs the following sentence: "One great object of this hospital is to help the hard-working, deserving poor, not to foster pauperism." This has been a guiding principle throughout the history of the institution. A charge of $2 a day is made for all patients in the general ward who are financially able to pay it. Where the patient is too poor, special cognizance is taken of the fact, and many are cared for who pay little or nothing. The charge for private patients ranges upward from $4 a day. Patients in semiprivate wards pay $2.50 a day. The actual cost of a patient to the hospital is upwards of $2.25 a day.

One departure in which the West Philadelphia Hospital for Women has gone farther, perhaps, than any other hospital in Philadelphia, is the prenatal clinic. This is attended by women who soon are to become ward patients. Their condition is carefully noted and any untoward circumstances corrected. The hospital also employs a social service "follow-up" system to ascertain whether proper care is given to infant children in poor families. Maternity patients are in the hospital about two weeks on an average.

The average number of patients since the new

building was opened has been above forty, and the average birth rate has been fifty-nine a month. In this time there has been only one death. This was from a complete placenta previa—in a case in which proper care had been absent before birth.

LITTLE JOURNEYS TO PLACES AND PEOPLE WORTH KNOWING

The First Little Journey—To Jackson, Mich., a Little City That Is Doing Big Things—A Commission Government Which Makes the Public Health Its Civic Responsibility—The W. A. Foote Memorial Hospital a Community Center

By MARGARET J. ROBINSON, R.N., Field Editor of The Modern Hospital.

EDITORIAL INTRODUCTION

AFTER the fashion of those who have made other little journeys, our field editor is going to try to draw pictures of some of the places she sees, not trying to be very technical, not bothering you with many statistics, but hoping to bring to you some of the vision of the work done within the hospital walls and around them and the people who are doing that work.

She hopes to prove to you that a hospital is not such a dull place after all; that it has its dramatic values, its daily comedies and tragedies, and that here big characters are made and little ones are strengthened—"Its mills grind slowly, but they grind exceeding fine."—Editors of The Modern Hospital.

Fig. 1. The W. A. Foote Memorial Hospital at Jackson, Mich.

THE LITTLE JOURNEYS BEGIN

It had come to the knowledge of The Modern Hospital that up in Michigan was a city which through its board of health and its hospitals, and their executive, the director of the department of public health, was doing things that no other city, at least of its size, was doing in quite the same way or to the same extent, and it was thought worth while for some one of us to go to Jackson to see these things and then to tell you about them if they proved to be of a character that would be interesting to our readers.

Arriving in Jackson one morning, I made an appointment with Dr. Christopher G. Parnall;[1] the director of the department of public health, and went out to the W. A. Foote Memorial Hospital, the City Hospital of Jackson. The hospital building is on the top of a hill with big trees all around it, and there couldn't have been found a prettier place to put a hospital if it had been picked out as ideal from somewhere else on the map, bought and set down just where it is.

Just as I entered the hospital, a tall American workman, with his arm in a sling, came in. He didn't seem to know just where to go, or how to begin; so the pretty girl at the desk behind the barred window in the office got up from her seat, came around and out of the office into the hall, and inquired, "Isn't there something I can do for you?" and then she listened to the story of the swollen hand and said she was sorry and arranged for him to see the doctor. I thought then and there how pleasant it would seem to a sick man or woman, or any casual visitor coming to a hospital, to be greeted by a pretty girl who asked you so courteously what she could do for you. It would be pleasant and good business, too.

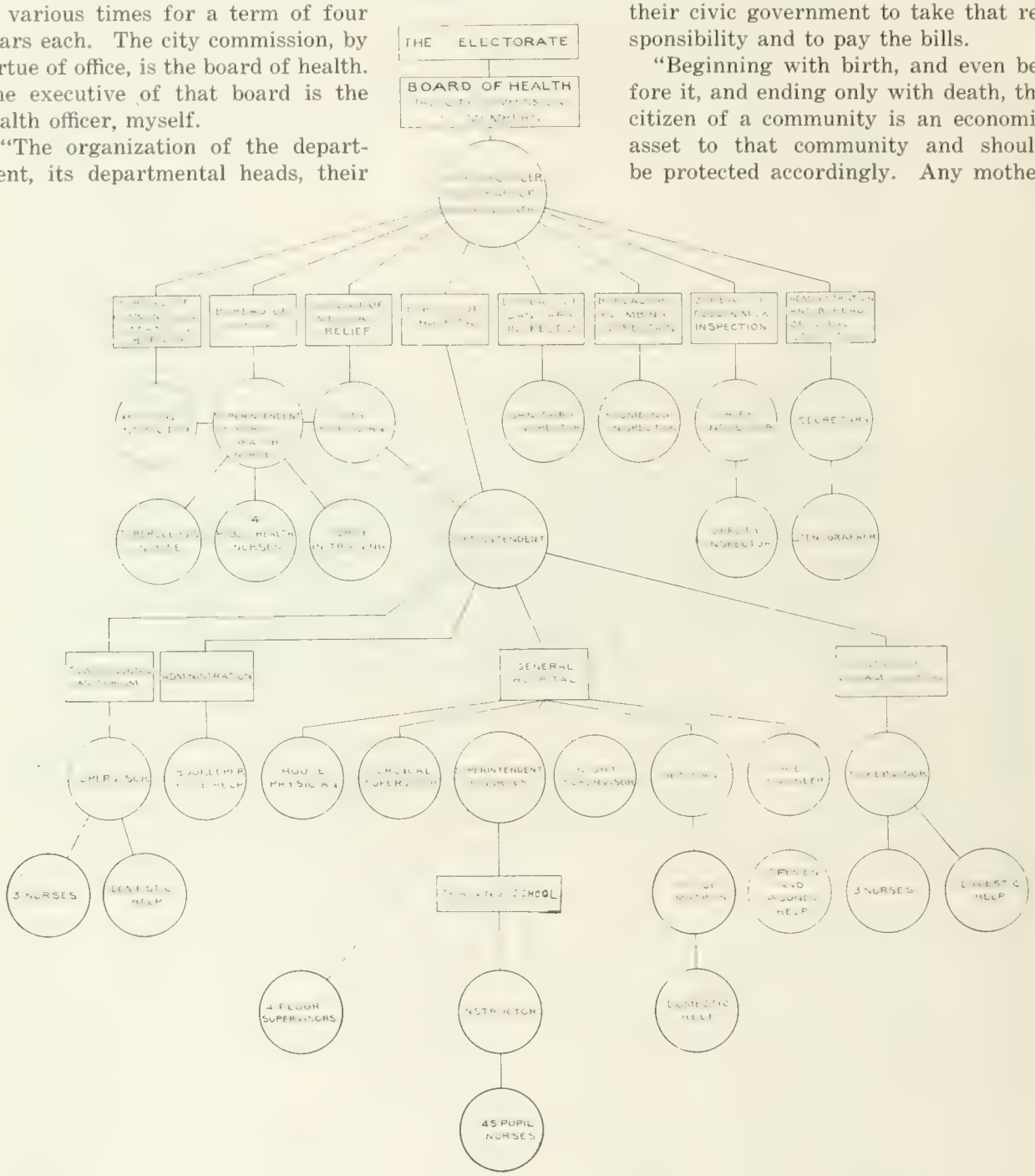
Dr. Parnall and Mrs. Moore, the superintendent, received me in the inner office, and Dr. Parnall began by saying, "What do you want me to tell you?"

"Anything and everything," I said, "and, if you are willing, let me spend the best part of the next two days here and with your workers outside. Let me go around and see things and talk to people and then I am going away to tell everybody about you and what you are doing here."

[1] Since this article was written, Dr. Parnall has been elected to fill the vacancy left by the resignation of Dr. Reuben Peterson as superintendent of the University Hospital at Ann Arbor, Mich. Major Peterson is now giving his entire time to military service. Dr. Parnall will take up his new dutles at Ann Arbor on July 1.

Dr. Parnall began, "Well, the first thing here is the organization, and it is that organization that makes our work possible. The city of Jackson has a commission government of a centralized responsibility. There are five commissioners, the mayor and four others, elected by the people at various times for a term of four years each. The city commission, by virtue of office, is the board of health. The executive of that board is the health officer, myself.

"The organization of the department, its departmental heads, their work and responsibilities will best be explained by the following diagram:



"Dr. Parnall," I asked, "with a centralized organization, what do you feel that your city and your board of health really accomplish for your citizens that cannot be done as well by the hospitals, dispensaries, and other public health welfare agencies as it is being done in other places?"

"We believe," he replied, "that central organization is the only sure way to carry out health protection and conservation, and that it is the duty of the people and the taxpayers through their civic government to take that responsibility and to pay the bills.

"Beginning with birth, and even before it, and ending only with death, the citizen of a community is an economic asset to that community and should be protected accordingly. Any mother here in Jackson may receive instruction in prenatal care; her baby, whether she can afford it or not, may come into the world under the best hospital conditions. Through the infant welfare work of the public health physicians and nurses this same child may be protected from the dangers of

malnutrition and the communicable diseases of childhood, and when he comes to school age, through the cooperation of the school physicians and nurses with the public health physicians and nurses, this protection continues and he is given education in his own health protection as part of his school curriculum.

"In our hospitals and dispensaries we have a salaried clinical staff of men who have specialized and who have been thoroughly trained for their own line of work, and then after that we have skilled care to support the diagnosis and advice of these men and to follow it intelligently to some conclusion. This health protection is special and departmental. We begin with vital statistics and sanitary inspection of food, milk, plumbing, etc., and, by the way, we even plan to have our own public abattoir. Then, coming to the hospitals and dispensary service, our hospitals include this one, which is the main city hospital and its dispensary, the tuberculosis hospital and dispensary, and the contagious disease hospital, which at present is in our old city hospital. Provision is made here in special wards for the quarantine of venereal diseases.

Fig. 2. The office of the city health officer, Dr. Christopher G. Parnall.

"We have a salaried staff including a surgeon and city physician, a pediatrician, a bacteriologist, an anesthetist, and a specialist on diseases of the chest and another on communicable diseases, which include venereal diseases. Through the state we have mental clinics, and, through the cooperation of our school physicians and nurses with the throat specialists, children whose parents cannot afford to pay fees for such special work may have tonsils and adenoids removed at the hospital. Policemen, firemen, and other city employees are given thorough physical examination.

"The obstetrical service is especially interesting for the work it is doing. A mother with the largest income in the city may come here and get perfect service for herself and new baby for a rate of $2.75 to $5.75 a day. The self-respecting workman on small wages may have his wife taken care of just as well for about $8 a week. The ones who cannot pay at all get the same service for nothing and without question or investigation, not as a charity but because the city takes it as a responsibility to look after its new citizens and thinks it good economy to do it; and, by the way, the public health nurses call on every new baby that comes to town, in the hospital or out of it, rich or poor, and keep track of it too afterwards till it comes to school age.

"The heads of our hospital and dispensary department, our public health nurses, school physicians and nurses, and Associated Charities all work together in prevention, care and follow-up work. The department heads lecture to our training school and to the public health nurses."

I asked Dr. Parnall how the Associated Charities joined with the Bureau of Public Health, and his answer was this:

"The city poor department is administered by the Associated Charities and the relief work done through them at the expense of the city. All applications for relief are in charge of a trained social worker, a graduate of the School of Civics and Philanthropy. Cases in need of medical or nursing care are referred to the superintendent of public health nurses."

"Tell me, Dr. Parnall, is not your plan of work here reaching to the ideal plan laid out by Dr. Cabot at the Massachusetts General in Boston, and are you not in a way trying to give the ideal service he pleads for in his 'Social Service and the Art of Healing'?"

"Yes," he said, "and I think it not unreasonable to promise that before long we shall be able to do it. We have the foundation, the city which believes in the public welfare and will pay for it, the

hospitals, the equipment, and the permanently employed salaried specialists, and I do not believe it will be very long before we have not only the hospitals and dispensary and nursing service for those who cannot pay, but a clinical service of specialists working in harmony with the physicians of the city, who will give complete and thorough examination for diagnosis, to the people of moderate means for one definite fee."

I asked Dr. Parnall to tell me what he thought were the definite results obtained so far from the central organization. He answered:

"Our organization has not been on the present basis for a very long time, but we now have things so planned that the definite end-results will soon be shown in figures. First, we have the awakening of the public conscience to the necessity of controlling disease, and the better health and economic saving accomplished by that control. Take, for instance, this one example:

"Since we began the infant welfare work three years ago, the mortality in that field has decreased from 106 per thousand to 84 per thousand. This is something that the people can all understand.

"The growth of the work which the organization has brought has already necessitated replacing the old City Hospital with this new building, thoroughly equipped to carry out the work we do and the work we plan to do."

"Could you give me some approximate figures as to the cost to the administration of the work of the centralized organization?"

"Yes. The new hospital has cost about $250,000. The land, valued at $30,000, was given to us by Mrs. W. A. Foote of this city. The city budget for this year includes $72,000 for the hospital, $23,000 for health protection, $12,000 for tuberculosis, and as much as needed for contagion. Last year we turned back to the city nearly $10,000 from our budget, so we have proved that centralized organization methods are economical."

I interrupted here: "Forgive the question, please, but your work is such an important experiment, and its success or failure will mean so much to other cities that will try to follow it, that I am going to ask you a very pointed question. Can your work here be kept clean of politics?" and Dr. Parnall answered emphatically:

"Yes, indeed, it can be and it is. The commission stands solidly for the public health and welfare. My assistants are capable, efficient people, all specializing in their own line of work. The city ordinance provides that all our employees shall be appointed by the health officer with the confirmation of the commission, but shall serve only during the pleasure of the director. The commission willingly appropriates all funds necessary for health protection, hospitals, and public welfare."

Fig. 3. Cheery and warm in spite of the weather outdoors.

Just then a nice black-haired girl in a white uniform entered, and she looked so tired that I almost knew to what department she belonged even before I was introduced. In these days that are meatless and heatless, and wheatless and porkless, and maidless, it is easy to recognize the dietitian.

"How do you do, Miss Hill?" I said. "Do you serve repeated menus?"

She looked perplexed for a minute. "What do you mean?"

"Oh," I said, "do your people know they are going to get boiled ham and canned spinach and boiled potatoes and rice pudding on Mondays, and

Fig. 4. The new citizen that Jackson believes to be its civic responsibility.

roast mutton and canned peas and mashed potatoes and pie on Tuesdays, and hamburger steak with tomato sauce and——"

"Well, I should say not," Miss Hill interrupted here. "Not if I have to stay up nights making out menus. Where did you learn all that?"

"I lived for two years in one hospital with that menu once upon a time," I said, "and I had plenty of time to learn it by heart, but I'll tell you a worse story than that. I met a nurse out West who had trained for three years and supervised for five years in one hospital where they had canned salmon and boiled rice and stewed apricots for every Saturday evening supper while she was there."

Dr. Parnall, Mrs. Moore, and myself then started out on our rounds to see the new hospital building which was opened for patients the first week in January and has a capacity of 110 beds.

The heating and lighting plants are in the sub-basement. The basement itself on the one side has a well-arranged and equipped kitchen, a bakery, refrigerating rooms, large and sunny nurses' dining and serving rooms, a special diet kitchen, a vegetable cellar, stores for food supplies and drug supplies, and a well-built and equipped autopsy room.

The other side of the main basement is given entirely to dispensary service with its own separate outside entrance and admitting room, physicians' assembly room, emergency operating room, radiographic laboratories, and examining rooms for the different clinical departments.

After seeing the regions below, we came up to the first floor again. In the entrance hall the soft gray Windsor chairs blend smoothly with the soft gray walls, and the whole atmosphere as you come into it gives a different impression altogether from that created by the usual golden oak atrocities, the anxious seats, the combined odor of disinfected pus and the unwashed, and the dingy green or colorless tan walls which rise in our memories of first hospital impressions.

The first floor plan includes children's wards, well separated from the rest of the floor service, and some other sunny, attractive wards for both men and women. No ward has more than six beds, and each has its own individual equipment and bathroom service. The corridors between are wide and airy, and there is plenty of light everywhere. Each unit and department of service seems to be thoroughly separated from every other department, and the cut-offs and the swinging doors as you enter each one are very distinctive and keep out noise. It will be easy with ordinary precautions to prevent the spread of infection from one department to another.

The diet kitchens are well equipped, and each has a practical table which combines stove plate and toaster, a dish-warmer, a top which keeps dishes of food hot, and a sterilizer for infected dishes. This table, I understand, was designed by Dr. Goldwater of the Mount Sinai Hospital, New York. The floors, of battleship linoleum tiles, are good looking, easy to walk on, and will be easily repaired.

The private rooms are attractive, and each one has a dresser, which has an arrangement making the top drawer into a desk where the special nurse may keep her chart or the convalescent patient do his writing. The sun parlors are delightful. Out of doors the thermometer registered below zero, but they were so warm and cozy that convalescent patients in the rose-colored cretonne-covered willow chairs were sitting close to the windows and even the potted plants and ferns looked cheerful. Wouldn't you like to have a dollar for every cold-

storage hospital sun parlor you have seen where you were told as you peeked through the door into its icy interior how lovely they were in summer?

The operating rooms, I thought, were well arranged. I liked having the room where the instruments and utensils were sterilized and the ordinary cleaning done placed near and between the two main operating rooms, and the dressing sterilizers placed in the nurses' work-room. This arrangement shows plainly how the nurses' tired feet will be saved, and only the Lord and the nurse herself know how hospitals that are built without this thought in mind may at night bring pain that reaches up into the hips and brain and makes the next day a dread to begin.

When you go through the obstetrical wing you get the impression of the public value of this service very distinctly. There are no large wards; no room has more than two beds in it, and there is absolutely nothing in the atmosphere to mark it charity. Everything is well planned, and the service which will be given to the poor woman of the city for little or nothing just because she is entitled to it will be just as good as the service given to another woman who gets the same thing because she can afford to pay for it.

I persuaded Mrs. Moore, the superintendent, to sit down and hold Baby Jackson for his picture. That wasn't the baby's real name, but I thought as long as I could not use his real one to print, I ought to give him the name of his foster mother, the city which is going to guard him so carefully.

Out of doors the temperature offered no inducement for us to visit the roof, but I was told that it is arranged and equipped for open-air treatment and recreation. We went everywhere else from the cellar to the garret and everywhere saw good construction, equipment, and service. I don't believe I have ever been in a hospital where I had such a distinct sense of having to go only the necessary distance to get anywhere If you asked, "Where is the diet kitchen?" or "Where is this or that?" the answer would be, "Just over there," or "Right down on the left." It never seemed to be, "Go as far as you can, turn to the right and then to the left again, and keep on going as long as you can."

Mind you, nothing here in construction or equipment is elaborate or expensive. The hospital is well but not ostentatiously planned, and furnished with plain things looking sanitary and practical. Your impression from the time you go into the front door till you come out of it again, however, is this: that your architect, your builders, and those who have been responsible for this building and its equipment, have put time and thought and conscience to getting the best out of the money appropriated for the work.

The hospital was just opened January 1, and everything, of course, is fresh and new and attractive. It was designed and planned by a well-known hospital architect and built conscientiously by people who have made a specialty of hospital buildings. The results were distinctly noticeable and far different from those that can ever be secured by local architects and builders who are given the job just because they are local or can pull strong enough to get it, and whose average experience in building consists of a schoolhouse and a county jail, a few dwellings or store buildings.

Later in the day I met Miss Wanda, superintendent of public health nurses, in her office of the department of public health. Miss Wanda is just her first name; nobody ever tries to say her last one. It sounds like the Polish city that was tossed about between the Huns and allies in the beginning of the war, and everybody calls her Miss Wanda for short. She speaks several impossible languages and dialects, and is an indefatigable worker, and she and her six nurses are an invaluable support to the bureau of public health. The city has a very large Polish industrial population; it has three large parochial schools, and the bureau of public health is planning for a parochial school inspection. Another new nurse, whose name is all consonants, is coming to help in this inspection.

The old fairy stories all end by pointing a moral to the tale. The moral to this one is rather long and may take a long time to prove itself, but that it will prove itself we have come to believe. We have all dreamed of the real community hospital where the people themselves, through their civic government, take the responsibility for the public welfare, for humanity's sake, for the sake of the future generations, and for economy's sake.

This hospital at Jackson is not only a community center, which in itself is unique and ideal in our present scheme of things, but it has what we usually expect only of the university hospital and the teaching institution of high standing in the hospital world which may have from 250 to 400-bed capacity. The work that Jackson is doing is really wonderful when you stop to think of it. Of course, there are plenty of other good city commissions and hospitals and specialists and public health nurses doing splendid work, but where can you find them so centralized and working together as they are here, and where else can you find a city of 50,000 people taking the responsibility that this city has taken as a civic duty and as

an economic measure? That they have a political administration with a vision large enough to understand this economic value as well as the Christian charity of such an organization, and that it is willing to use enough of the city's funds to protect the health and future of its citizens, seems to be a splendid thing and cannot help but be an inspiration to other cities to do the same, now that a successful precedent has been established for them to follow.

Twenty years ago, when Jacob Riis said that it was cheaper for a city to protect the public health and welfare than to have the ulceration of a slum fastened upon it and to pay out good money to support prisons, insane asylums, and poorhouses, he was called visionary, but today we are beginning to live in the midst of some of his visions, and the time may not be far off when they can no longer be called visions, but just everyday routine. So the world moves.

There is little use in writing or telling about a good thing that other folks might want to copy unless you give the formula in order to make it. Here it is:

R—1 good city.
5 good commissioners (not politicians).
1 good executive for the commission, who must be a physician and surgeon, of the best training and highest ideals of public good, who has the conviction and courage to put a thing through in spite of all the difficulty and criticism that he will meet.

FROM THE FIELD EDITOR'S NOTE BOOK

Progressive Hospitals in Michigan, Illinois, and Iowa—Interest Taken in Hospital Standardization by the Sisters—An Illinois Hospital Controlled by a Women's Club—A Model Railroad Hospital

We have long desired to make THE MODERN HOSPITAL more personally helpful, as it were, to the hospitals of the country, and we believe that a way has been found to do so. The visits of our field representative will, we trust, bring the hospitals more closely into touch with us and with each other, and will offer a means by which the achievements and improvements of individual hospitals will be recorded for the benefit of others, and the problems of each may be worked out by the help of all.—EDITORS.

Blodgett Memorial Hospital, Grand Rapids, Mich.

When you become inclined to grow pessimistic about hospital administration and conditions and lack of teamwork, or feel that hospital positions are only temporary things, read the following:

Miss Ida M. Barrett, the superintendent of the Blodgett Memorial Hospital in Grand Rapids, Mich., formerly the Union Benevolent Association Hospital, has just celebrated her twenty-fifth anniversary. Miss Welch, her assistant, has been with her sixteen years and shares with her the credit of the growth of the hospital from a small residence building to an institution of 125 beds, having one of the finest hospital buildings in the middle west.

The superintendent of nurses has served for eight years and leaves only to go to France. The surgical nurse has been the greater part of fourteen years with the organization; the office nurse has been there for eight years; the cook has cooked for sixteen years; the engineer came to work for the hospital when he was fifteen years old and stayed until he died.

Miss Barrett tells a little story that I think might help someone else over a bad place some time.

One blue day some years ago everything had gone wrong, and life did not really seem worth the living (you know the kind of a day I mean—when the whole world looks to you a sort of a sickly pea-green color, when perhaps some doctor or someone in authority has been unreasonable and you have felt so humiliated that instead of meekly saying "yes, doctor," you wished you had been big enough physically and financially to have escorted him outside to express your feeling toward him with your hands). On such a day as this Miss Barrett says she went through the hospital with all her discouragement showing in her face. A little nurse touched her on the arm and said, "Please, Miss Barrett, look at the clock; it is noon now. Remember, if you can live through the day till noon, you can live through the rest of the day."

St. Mary's Hospital, Grand Rapids, Mich.

I made a very profitable visit to St. Mary's Hospital, which is administered by the Sisters of Mercy. The hospital has a capacity of a hundred beds, and is certainly one of the most progressive hospitals in charge of the sisterhoods. I was particularly impressed with the desire of the sisters in charge to meet the demands of hospital standardization. They are fine, progressive, thoroughly educated women who will leave no stone unturned to make their hospital right, and to give their nurses an education according to our best standards.

Cleanliness and order greet you here at every turn of the hallway, and the kindly attitude of the sisters, their courtesy and friendliness, will always be a pleasant memory in my hospital visiting. They pride themselves on the fact that the nine supervising sisters are all graduate registered nurses of Michigan.

The pathological laboratory is thoroughly equipped for bacteriological and serological examinations, and has a full-time woman pathologist in charge. The radiographic laboratory has new and complete equipment and a clever home-made tube table designed by Dr. Moore,[1] the roentgenologist. One of the sisters, who has had special training, assists him in this work.

The records—clinical, history, pathological, and training school—are as complete as you would find in a teaching institution of much larger staff and bed capacity, and if there is anything of this kind which they do not have, they want to know about and get it as soon as possible.

In the leaflet sent to applicants for admission to the training school and among the rules for nurses is a para-

[1]Described by Dr. Moore in an article published in this issue.

graph which sounds as if it might have come from the pen of our mother of nursing, Florence Nightingale, and reminds us again what the spirit of nursing really means, even though we sometimes lose sight of it, in our reaching after technic and advanced education.

"Nurses must always conduct themselves with a ladylike reserve, and prove themselves true children of the house, by their cheerful obedience, gentle manners, and upright actions. Each nurse must bear in mind the fact that the success of every well-organized body lies largely in its discipline. Nothing will so surely aid the nurse in becoming efficient as a genuine docility of spirit, and a determination to conform in every particular to the requirements of the institution."

The hospital also publishes a booklet measuring about five and one-fourth by three and one-fourth inches, its contents much like those of our old stand-by, the little red-leather-covered "Amanda Beck." It is easily carried in an intern's or nurse's pocket, and tells the rules for charting, signs and symptoms, weights and measures, solutions, and food values.

I felt quite proud when I learned that four copies of THE MODERN HOSPITAL are taken here and that the reading of this and the *American Journal of Nursing* constitutes part of the nurse's curriculum.

Sherman Hospital, Elgin, Ill.

This hospital, recently enlarged to a capacity of seventy-five beds, is practically self-supporting and is controlled by the Elgin Woman's Club, through a hospital board appointed from members of the club. These conditions of hospital management seem to be unique; this institution, so far as we know, is the only one existing as a department of a woman's club organization. The hospital report is published on one page of the annual report of the club.

Miss C. Irene Oberg, the superintendent, who has been with the hospital for ten years, is a good executive, and under her capable administration the hospital has progressed and gradually added better standards to its economic and training school management. Miss Oberg has until recently been her own bookkeeper; she does the radiography for the hospital and teaches in the training school.

The school has twenty-four pupil nurses, and affiliates with the Illinois Training School in order to give the nurses clinical material for an all-round nursing education. Recently a well-equipped special diet kitchen was installed, where the nurses receive class instruction from the teacher of dietetics in the city high school. A resident dietitian and instructor will be added to the staff later.

A comfortable nurses' home stands next to the hospital, connected by a covered bridge with the main building. The nurses' dining room is in the basement, away from the odors and noises and interruptions of the hospital.

An interesting piece of equipment was noticed in the basement linen room. This is a small mangle, heated by gas and operated by the ordinary 110-volt lamp socket current, which turns out in emergency the towels, gowns, and small pieces needed without the necessity of getting up fifty to seventy pounds steam to turn the general laundry machinery.

In the superintendent's suite, there were well made and attractive pieces of furniture of the arts and crafts type designed by Miss Oberg and made by the engineer, whose clever handiwork was seen in several other places through the hospital building.

This hospital certainly shows a creditable spirit of progressiveness and a desire to meet standardization. Its patriotism is unquestioned. It follows the regulations of the Food Administration, and nine stars stand out on its service flag for nine nurses from its school who serve with the colors.

The hospital economics have surely been in good hands, as only a small deficit shows at the end of each year, although the ward and moderate-priced private-room rates can hardly cover the cost of maintenance in these times of inflated prices for everything used.

Butterworth Hospital, Grand Rapids, Mich.

Butterworth Hospital is distinctive because of the number of things in the way of needed equipment it has made with small cost for material and the labor of its own minds and hands. Here are some of them which have been designed and planned by the doctors and the superintendent and carried out by the engineer and carpenter:

Electric lighting fixtures of gas piping; only the necessary lamp fixture itself was purchased intact.

An adjustable examining and treatment table in the eye, ear, nose, and throat room of the dispensary, with all equipment necessary for this special work.

An ether vapor anesthetic apparatus made of bottles, rubber tubing, and tin container.

A three-story cart, with its floors made of steel wire screening, where the steamed packages from the sterilizers may dry out while being carried to their cupboards.

These things and many more which the hospital has to have and cannot buy are in daily use and give good service.

In the same hospital, Miss Elizabeth Selden, the superintendent, uses her knowledge of amateur photography in the training of her nurses, and has made a very interesting series of small photographs to illustrate the various steps in the process of making a bed, lifting a patient, and giving various treatments.

Illinois Central Hospital, Chicago

The Illinois Central Railroad Hospital has a wonderful outlook from its windows. Just in front is the broad driveway, then a hedge of thick shrubbery on the edge of a lagoon, beyond that the shabby white domes and pillars of the Field Museum, once the Art Palace of the World's Fair, and beyond that again Lake Michigan stretches away and beyond your vision. The outer architecture of the building reminds one of a stately college building on a New England campus, and you feel as if there should be ivy creeping around its corners. The entrance hall is circular, marble-walled and has the appearance and dignity of the entrance to a good hotel. The hospital interior is toned mostly in gray and has very attractive and comfortable sun-rooms at the end of each corridor.

Miss Helen Jones, the assistant superintendent, who chaperoned me through the building, asked me if I didn't want to see the Zander room, and I said, "Why, of course I do. If there is any one thing I love especially it is a Zander room, but what is it?" The Zander room at the Illinois Central, Miss Jones assured me, was the only one of its precise kind in captivity. It is equipped with the most wonderful appliances for the exercise of bones, muscles, tendons, and motor nerves which have been partially destroyed or anesthetized after traumatism, and here your arms, toes, and fingers may be automatically wiggled until they become themselves again.

There are no large wards; the railroad employees get the private service and intimate care which would cost a private patient a goodly sum in a general hospital. The hospital has 108 beds, employs twenty-five graduate nurses and six interns, has complete laboratory facilities, dis-

pensary service, and a splendid laundry, which has the highest-grade machinery. The dining room, originally planned for the help, was small and at the top of a long stairway leading out of the main kitchen. As the help did not seem to enjoy running up the stairs with the food, another dining room was made for them. The dressing room and dumbwaiter space does not seem adequate.

My nose, which is the only real authority I possess on ventilation, told me as we journeyed through the building that the air supply was wrong somewhere, but my eyes and ears pronounced the Illinois Central a very attractive and interesting hospital.

Miss Mabel Christie, the very competent and charming superintendent of the hospital, seems to fit her position as a good glove fits a well-shaped hand.

St. Anthony's Hospital, Carroll, Iowa

Down in Iowa, in a little town of only four thousand people, is a splendid hospital, filling its place in its own county just as well as a great institution does for its own population in New York or Chicago. The farmers' wives from an area with a hundred thousand population come here for maternity care, and the new babies in the picture are getting a start in life that was not possible for their mothers and grandmothers to get. Every baby that goes back to the farm is a booster for the hospital, and is a part of an educational propaganda for the village in which it will live. St. Anthony's will be made the subject of one of the "Little Journeys" in a later number.

A corner of the nursery, St. Anthony's Hospital, Carroll, Iowa.

Grace Hospital, Detroit, Mich.

The new children's department at Grace Hospital is beautiful, and anyone who remembers the old quarters, where it was almost impossible to do good work or even keep proper isolation, cannot help but become enthusiastic over the big sunlit glass-sided rooms, where even the very sick babies seem to be happy. Part of the roof has been used in the making of this new department, and here, high above the smoke and noise of Detroit and all the crowds of its recent mushroom growth, the babies and the older kiddies get the air and sunlight first hand.

One plump little chap who, it was said, had come into the hospital with just the width of a thread between him and "the other side," was getting away with a big trayful of dinner and had more jam on the outside of his mouth than inside of it. The nurse in charge looked as sunshiny as the rest of the place; she held out her hand and said, "How do you do?" and then I remembered her from quite a long time ago, a slim, frightened little probationer, without the dignity of a cap or the black band on it.

Grace can certainly be congratulated on the children's ward and the work being done there, and congratulated, too, on the forty-eight stars on the white field of the flag which flies over the office in the entrance hall.

Ottumwa Hospital, Ottumwa, Iowa

The Ottumwa Hospital in Ottumwa, Iowa, is a fifty-bed hospital which has proved conclusively that an average hospital of this size in a city of twenty-five thousand people can, with the proper effort on the part of its directors and staff and superintendent, bring itself up to standard.

The hospital gives the best of nursing care to its patients, and has well-equipped radiographic and pathological laboratories. The pathological laboratory is in charge of a full-time salaried pathologist, and the nurses receive training there as part of their curriculum.

This hospital is administered by the Ottumwa Hospital Association, a body of broad-minded and capable women directors, who understand the value of the hospital to the community, and use every effort to improve its service.

St. Mary's Hospital, Detroit

St. Mary's Hospital has certainly made progress in the last few years. This hospital until recently was seriously handicapped for lack of proper quarters and equipment to properly carry out the large amount of work it was doing.

New wings have been added to the hospital; a fine operating room suite and a new nurses' home has been built, and a very definite advance has been made in the nursing education. The sisters in charge are most desirous of doing everything within their power to bring the hospital up to present standards of efficiency.

Mercy Hospital, Muskegon, Mich.

Mercy Hospital is planning a new and thoroughly equipped hospital building in the near future. This hospital has had its present quarters in the old Mason homestead property for the past fifteen years, and has gained the respect and confidence of the people of the city by its conscientious work, which has been accomplished in spite of the handicap of cramped quarters and the lack of needed equipment. Muskegon is an industrial city, one of the Michigan cities which has almost doubled its population since the beginning of the war, and there is a need for larger hospital facilities.

This hospital shows its patriotism by giving care free of charge to all cases of civilian relief, members of families of soldiers now with the colors.

After all, the best thing one can do when it's raining is to let it rain!—Longfellow.

The
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Domestic postage, $3.00. Foreign postage, $3.50 (15 Shillings). Single copies, 35 cents.

Domestic rates include United States, Cuba, Mexico, Porto Rico, Canal Zone, Hawaii, and Philippines.

Contributors, subscribers, and readers will find important information on advertising page 42.

The Fight for Hospital Standards in Pennsylvania

In connection with Dr. Baldy's article on "Standards of Hospital Education for Interns," we wanted to say something editorially in regard to his work in Pennsylvania. No words of ours, however, seem so fitting to any account of Dr. Baldy's work as these of Dr. Edward Martin's, from his address before the conference on hospital standardization of the American College of Surgeons:

"In Pennsylvania we have a man named Baldy. Some of you know him. I have not been able to trace his family history, but there is an old Greek story of a dragon which shows its teeth. Baldy is a dragon. He is a fighter. He would rather fight than eat. He is honest, truthful, fearless, and a man of broad ideas and ideals. He received the appointment of President of the Bureau of Medical Education and Licensure and promptly started in to establish hospital standards. . . . Now Dr. Baldy's idea is that the function of a state board is to protect a community by requiring sound training of its medical practitioners. And with this idea in mind he inspected every hospital in the state of Pennsylvania. He studied the question of a minimum standard of efficiency as it relates to equipment, the staff, the number of patients, etc. No man receives a license in Pennsylvania to practice medicine unless he has had a year's training in a hospital approved by the state board. Dr. Baldy laid down a standard for the hospitals in the state to live up to. The various boards of managers thought at first that he was a little too exacting and dictatorial. But in one week he accomplished what hospital staffs had been trying to do for five years. He got the standard for which we so earnestly pleaded. The hospitals got specialists on the staff, x-ray men, and laboratory men. Dr. Baldy's weapon to force hospitals in line was this: Unless hospitals met the definite standard which he recommended, they could not get resident physicians."

Dr. Baldy states that "certainly no one can justly accuse me personally of the whole thing. There has never been a time from the beginning of the organization of this bureau that I have not had back of me heartily and unanimously every member of the bureau. No step forward has ever been taken without full counsel and consent of the bureau as a whole, and if any credit obtains it certainly belongs to the bureau as a whole. The present medical act was passed in 1911. You know the bitter fight which took place in 1909 and how badly the profession lost out. I was asked to assume charge of the bill in 1911 and succeeded in putting through the present legislation. Practically I was alone in that matter. The present bureau was immediately organized as the outcome of that bill and since that every member has shared in the responsibilities of what has been done. The first move of the bureau was to bring peace and order out of chaos which existed on account of the enmity of the medical schools for each other and of all the schools combined with the state boards. It then moved for an increase in standards, first obtaining the consent through persuasive measures of all the schools, and it went to the legislature at the 1913 session and had the standards advanced from a four-year high school preliminary standard to the additional requirement of a year of college work in physics, chemistry, and biology. At this same session, again with the consent of the schools, it had the intern service of not less than a year added to the state requirements before any graduate could come to the state examinations. The bureau at once realized the fact that to have a competent intern year would necessitate a more or less control of the hospitals. The bureau began the work of standardizing the hospitals by an inspection of all the hospitals of the state. After summing up the situation, it formulated a minimum standard that was possible in order to secure proper results and notified each hospital wherein it actually fell short

of this standard. After obtaining as much progress as possible by persuasive methods, the bureau asserted its legal powers in order to secure further advance."

The bitterness of heart engendered by Baldy's activity is surpassed only by the promptness of action on the part of hospital boards in instituting the improvements upon which he insisted. His bureau has further caused the hospitals to open their wards to cases of venereal infection; has through act of assembly placed the control of the practice of midwifery in its hands, and has administered it more comprehensively and better than is done in any part of the world; has wisely and helpfully settled the status of drugless healers, who before they are licensed to practice upon the citizens of the commonwealth must have had a preliminary education equivalent to that required of the regular graduate of medicine and has assured to the citizens of Pennsylvania, in so far as this is possible, at least an adequate training to any man who shall receive a license which entitles him to take into his hands the responsibility of their life and their health.

Baldy and his board have accomplished in a brief time in the direction of a more efficient practical education what even the optimists of a few years ago would have regarded as impossible of attainment within twenty years. To him and to his board the state of Pennsylvania owes a lasting debt of gratitude.

Preparedness in the Hospital Field

Hospitals suffer more from lack of foresight than from lack of funds. There are hundreds of hospitals today suffering acutely from both—and one aggravates the other. Because of the difficulty of raising funds or the high prices of building, hospitals are not being built now, and the probabilities are that after the war the same hospitals will remain unbuilt for the same or other easily found reasons.

Admittedly it is no small task to raise funds for a hospital in these days (or at any other time), and for good reasons. Where the community needs the added facilities and the management deserves the support of the community the funds are forthcoming, and liberally. But hospitals are so frequently a chaotic jumble of additions, alterations, and makeshifts that during the most casual inspection by a layman the whole thing looks as sensible and orderly as the Trotzky-Lenine rule of Russia. Is it surprising that the layman wonders whether there can be any efficiency in such institutions? Hospitals are no longer hesitating experiments, but the "measure of civilization," and a well-ordered, sensibly arranged growth is as possible as is the growth of our manufacturing institutions or our colleges.

And our hospitals are facing an era of expansion which promises to make the growth of the past decade appear infinitesimal. Some of the factors in this expansion are: the "hospital year" before license to practice medicine; the demands of the returned army surgeons, reeducated to the necessity for scientific study and care of their patients; the constant scrutiny of standardizing bodies such as the American College of Surgeons and the American Hospital Association; and, far more important than any of these, the rapid strides which health and accident insurance has made, and the rapidly increasing realization of the public that the hospital and not the home is the place for the sick.

These are but few of the omens which the progressive hospital management sees, sometimes with considerable perturbation. The answer, of course, is obvious—"Be prepared." And the first step is to spend considerable time and thought on the ordered development of the institution. Don't be in the position of the institution which last year spent four thousand dollars remodeling its operating department, only to find that the money was wasted because this year's addition must be so placed that the remodeling is of no avail. The mistake made in this institution illustrates that lack of foresight which is so common and so entirely inexcusable, for not only is the operating department threatened by the new addition, but a $125,000 pavilion less than a year old and a nurses' home just finished are so located that they materially interfere with the logical and easy growth of the institution. This hospital and its patients will continue to suffer for generations for this lack of a comprehensive development.

Architects all over the country are now idle and would welcome the opportunity to study these problems and arrange a building program for orderly, scientific growth, and every institution needs such a program, whether it has ten beds, or five hundred beds. The problems are many and intricate, and deserve the careful study of those experienced in hospital building. The solution must be flexible and elastic.

After this has been settled, the first building should be taken up in detail. Though it may be a long time before the building is to be erected, it would serve a double purpose, first, to interest the patrons of the hospital; second, to insure that every member of the board, staff, and management would have ample time for study and that

all criticisms might be discussed and considered before the building is commenced.

Changes in the building cost hundreds and often thousands of dollars; changes in the drafting room, nothing. And we are all familiar with the extravagant changes in the building due to lack of thought by those concerned most intimately in the hospital affairs. By this method, time is allowed to study all possible arrangements and to insure that only the most efficient and truly economical shall be incorporated into the building. Time is allowed for inspection of promising materials and details so that no glib salesmanship will "put over" something undesirable or untrustworthy.

Everyone is familiar with the time-consuming delays during the consideration of plans. It is either the architect, the building committee, the staff, the superintendent, or all combined who seem to make the progress a veritable snail's pace, materially delaying the beginning of operations on the site. And architects will be a very busy set of people when the pent-up building activity smothered by the war bursts forth, and will try to divide their energies and thoughts among a great many urgent clients. Why not use the architect now and get the benefit of a mind free from other problems, instead of the bewildered efforts of a poor draftsman?

Architects will do this for very modest retainers, and apply these retainers on the commission when building work proceeds. The cost is negligible, and is really an investment. The value of the result when experienced hospital architects are employed is obvious. Well-planned and economical hospitals are strangely like other human achievements in that they do not spring, Athena-like, full grown from the foreheads of their progenitors, but require painful study and labor.

Those who seize the opportunity will not only be prepared to take advantage of a decline in building costs or to anticipate the rising market, but will also set a definite goal for the patrons of the institution which cannot fail to increase their measure of respect for and interest in it.

The Battle on This Side

The world war has almost blotted everything else out of mind, or, at least, out of interest. Scarcely anything seems worth while that does not, directly or indirectly, tend toward victory. Those of us who have to stay at home at times can scarcely feel that it matters whether or how we fulfill our tasks, so insignificant, so trivial do they seem beside the great and terrible things wrought in anguished sweat and blood on the battle front. We need to be reminded that the war is being fought, not merely against something, but for something—not merely against brutality and autocracy, but for a better, a reconstructed world. If we are not to slip back into the dark ages, we must press forward into the new day. And, while our soldiers are fighting, some of the rest of us must see that the constructive ideals which they are fighting for are not lost on this side. They are plowing the field; what good will that be if when the plowing is done there is no seed wheat to sow in the furrows?

One of these germinal ideals which must not be allowed to die out while we are busy fighting the Hun is that of making the hospital not merely a place for receiving and curing the sick, but a civic center from which radiates community health and community welfare. Many hospitals in large cities are on the way toward a realization, in greater or less degree, of this ideal. Can the average hospital of from fifty to one hundred beds, in the average small city, teach and preach health and hygiene to the citizens and dispense charity where needed, besides providing for medical and surgical needs of this movement? The little city of Jackson, Mich., says that this is possible.

In the first of our field editor's "Little Journeys," appearing in this issue, something is told of the inspiring fight waged by the commissioner of health of Jackson for the civic welfare of his community. We hope that other communities may be encouraged by this fine record of Jackson. If enough of the hospitals in our smaller communities will do as well as Jackson, we may feel assured that the battle on this side will be won.

Features of Special Interest in This Issue and the Forthcoming Volume

Hospital people in various branches of the work will find a number of particularly interesting articles in this month's issue, and we cannot refrain from calling attention also to others to be published in the near future.

Among the papers of general interest to hospital administrators is one soon to appear by Dr. Henry E. Tuley, superintendent of Louisville City Hospital, on "Some Problems of Hospital Management," besides one by Mr. Joseph Geffen, superintendent of Mount Sinai Hospital, Philadelphia, on "Visitors and Visiting in Hospitals," and one by Dr. Charles B. Bacon, medical superintendent of New York City Hospital, on "Self-Government for the Resident Medical Staff." A forthcoming article by Mr. Pliny O. Clark, superintendent of the Ohio Valley General Hospital, treats of "Hospitalism—Its Causes and Treatment." Readers of

Dr. Baldy's important article in this issue on "Standards of Hospital Education for Interns" will be glad to know that he rounds out his discussion of the subject in an article soon to appear, called "Has Every Hospital an Inherent Right to an Intern?"

One of the most important features to appear this year is the series of nine articles on "Hospital Accounting" by Charles A. Porter and Herbert K. Carter, of the staff of THE MODERN HOSPITAL, which begins in July. The authors, both expert accountants, during the preparation of this series of papers studied the systems of accounting installed in many hospitals and held many conferences with expert hospital accountants and hospital administrators. It is believed that this series is the best piece of work on hospital accounting that has ever been done, and that in presenting it THE MODERN HOSPITAL is doing a real service to the institutional world. It is well worthy of general study, because, even though the system may not be found suitable in its entirety in every kind of institution, some part or another will undoubtedly prove valuable to almost any hospital.

Small hospitals may look forward to a number of articles of special interest to them. Several appear in this issue, in which begin two series of particular interest and importance to people in the smaller institutions. These are the "Little Journeys to Places and People Worth Knowing," by our field editor, Miss Margaret J. Robinson, and "From the Field Editor's Notebook." These are records of personal visits made by our representative to the various institutions described, through which it is intended to call attention from time to time to the excellent work done in these smaller institutions and those situated away from the larger centers of population. Among the other articles which are likely to interest administrators of small hospitals is one by Dr. F. B. Sampson of Creston, Iowa, on "A Plan for Developing Efficient Modern Hospital Service for Smaller Hospitals and Local Communities." Dr. Sampson is doing remarkable educational work in his community—work which is comparable to that of Dr. Parnall at Jackson, Mich., described by Miss Robinson in this issue. Mr. Emmet E. Bailey, architect, of Oil City, Pa., contributes an unusually thoughtful and interesting paper on "Plans for a Complete General Hospital for a City of Four Thousand." Dr. Foster Kendrick Camp, superintendent of Wesley Hospital, Oklahoma City, has accomplished some rather unusual things in his own institution, and his article on "Maintaining the Standards of the Small Private Hospital," will be worth looking forward to. Three more articles from the West and South are: one on "Training of Male Nurses at a Small Hospital," by Dr. Benjamin Bailey, superintendent of Green Gables Sanatorium Lincoln, Neb.; one on "The Community Hospital as Viewed by a Nurse," by Miss Margaret Harrison, surgical supervisor at Kerrville Sanitarium, Kerrville, Tex.; and one on "The Community Hospital of Lexington, Miss.," by Dr. L. S. Rogers, of Jackson, Miss. The manufacture or adaptation, at moderate cost, of apparatus usually obtainable only at considerable expense is a subject of much interest to small hospitals. Of special value, therefore, is a paper by Dr. V. N. Moore, roentgenologist at St. Mary's Hospital, Grand Rapids, Mich., on "The Installation of a Modern Roentgen Equipment at a Moderate Expense," and one on several devices invented by Miss Elizabeth Selden, superintendent Butterworth Hospital, Grand Rapids, Mich.

Tuberculosis hospitals also are well represented. Dr. Robinson Bosworth, executive secretary of the Minnesota Advisory Commission of the State Sanatorium for Consumptives, is to contribute an article on the standards of the tuberculosis hospital. Dr. Stephen A. Douglass, superintendent of the State Sanatorium of Tuberculosis, Mount Vernon, Ohio, tells how his institution solved the labor problem and converted an institution farm from a liability into an asset. Dr. Walter C. Klotz, resident physician at Barlow Sanatorium, Los Angeles, describes a new four-patient cottage which is said to be very economical in cost of construction and upkeep. Another architectural paper is one by James D. Burt, architect, of New York, on a tuberculosis sanatorium for fifty patients, also planned with a view to economical construction and administration. An article on Riverside Sanatorium, Granite Falls, Minn., by Sund and Dunham, the architects, Mrs. Sara W. Dunton, the superintendent, and Dr. Robinson Bosworth, covers the various phases of architecture and administration.

Among articles of interest to institutions for nervous and mental diseases are one on "The Standardization of Hospitals for the Insane," by Dr. William C. Sandy, assistant superintendent of of the Connecticut Hospital for the Insane at Middletown, and one on "The Standardization of State Hospitals," by Mr. A. L. Bowen, superintendent of charities, Illinois Department of Public Welfare. In this issue Dr. Noboru Ishida of Nagasaki, Japan, describes the non-restraint system used in the insane wards of Nagasaki Hospital, and Dr. Eugene Cohn, superintendent of Kankakee State Hospital, explains the workings of the open cottages for trustworthy patients at Kankakee. Miss

Jessie Luther, occupational instructor at Butler Hospital, Providence, writes on "Occupational Treatment in Nervous Disorders."

The cosmopolitan range of THE MODERN HOSPITAL'S contributors is emphasized anew this month. The contributions from war-worn France, which last month included Miss de Monclos's article on the Hotel-Dieu of Blois and Miss Ross's on the antituberculosis work in France of the Red Cross and the Rockefeller Commission, are continued this month by an article by Bertram Kelly on "American Aid to Paris Children." Another article from France, one on the tuberculosis hospital known as the Hopital Sanitaire 38 de Ste. Feyre, in the department of Creuse, France, by the medecin-chef, Dr. Paul Martin, will appear soon. Several contributions on Japanese hospital and medical conditions appear in this issue, among them the article by Dr. Ishida mentioned above, and letters from Baron Ishiguro of the Central Red Cross Society of Japan and Dr. T. Matsumoto, on, respectively, the hospitals of the Japanese Red Cross, and the recent progress of Japan in medical and institutional matters. Our front cover illustration shows one of the hospitals of the Red Cross Society of Japan, that located at Akita. We hope to have other articles from Japan and China as well.

This, of course, by no means exhausts the list of topics and contributors in prospect, but it is perhaps enough to give a foretaste of what is in store for our readers. Several contributions from Australia, bearing on the system of purveying adopted by the Hospital Board of Supplies of Melbourne, have been sent in and will probably appear soon.

The Convention of the Catholic Hospital Association

One of the most important meetings of the year is the convention of the Catholic Hospital Association of the United States and Canada, which takes place at Chicago, June 18, 19, and 20. The main topics for discussion will be "The Standardization of Hospitals" and "The Hospital's Work in Relation to the Present World War." It is obvious that these two subjects, which are to be discussed by authorities from various parts of the country, are decidedly timely and practical. Representatives of hospitals will have the opportunity of first-hand information from Dr. John G. Bowman and Rev. Charles B. Moulinier, S. J., the former being the general director, and the latter one of the hospital visitors, of the present great movement which is being systematically and thoroughly carried on for the standardization of all the hospitals of this country and Canada. At the present time both Dr. Bowman and Father Moulinier are making a tour of hospital observation in the East, and will therefrom have still more data of interest to present to the convention.

A new feature, and one that promises to be of especial benefit, is the plan for conferences, which are to be held during the afternoon of the second day of the convention. These include conferences of mothers general and mothers superior; chaplains; superintendents; teachers of training schools; supervisors of records; operating room nurses; anesthetists; laboratory workers; dietitians, and social service workers.

The Catholic Hospital Association was organized at Milwaukee in the summer of 1915, and was then pronounced by one of the leading authorities in hospital progress as the greatest movement for the advancement of hospital work that had taken place in the medical world for many years. The idea of this association was conceived by Rev. Charles B. Moulinier, S. J., regent of the Marquette University School of Medicine, Milwaukee, who, after carefully studying hospital conditions, was convinced of the urgent need and the inestimable benefit of such an organization. The results of the efforts that have been made since the beginning are excellent. Appreciation of the movement and earnest endeavors towards the scientific betterment of hospitals have been generally manifested, and it may be confidently stated that the work for the standardization of hospitals will have no stronger advocates and practical supporters than the members of the Catholic Hospital Association. The extent of its field and the possible influence for good of this organization may be gleaned from the fact that there are five hundred and twenty-two Catholic hospitals in the United States and ninety-five in Canada.

As a manifestation of the interest that has been shown, the association has active members in every section of this country and in several parts of Canada. The meetings of the 1918 convention will be open to all who are interested in scientific medical work.

Doctors Goldwater, McCoy, and Woodward to Select Site for Leper Hospital

Dr. S. S. Goldwater has been designated by Surgeon-General Rupert Blue as a "consulting expert in the public health service" to act in the selection of a site for the establishment of a home for the care and treatment of persons afflicted with leprosy. Associated with Dr. Goldwater in this task will be Surgeon G. W. McCoy, director of the Hygienic Laboratory, and W. C. Woodward, health officer, District of Columbia.

THE GREAT EXPLOSION AT HALIFAX, N. S.—A RETROSPECT

A Vivid Description of the Great Catastrophe—Splendid Work Done by Victoria General Hospital—Relief Work of Friends and Neighbors

By W. W. KENNEY, Superintendent, The Victoria General Hospital, Halifax, N. S.

A few minutes after 9 o'clock on the morning of December 6, there descended upon the city of Halifax, N. S., beneath the blue of the bright winter sky, a bolt which laid waste its whole northern half, damaging in some degree practically every building in the town, many of them beyond the possibility of repair, and killing about sixteen hundred persons, many of whom were little children or young people. In a single parish—that of St. Joseph's Roman Catholic Church—there perished ninety boys under the age of sixteen years. A sharper, more dramatic contrast between the smiling winter morning and the black stupendous tragedy which darkened it is not conceivable. It was a perfect, an ideal Canadian morning of the early winter, not too cold, bracing, stimulating. The streets were full of normal life, happy, laughing children on their way to school, business men and women to their offices and posts of duty. In the north end of the city, a district which is populated by sterling people employed, in the main, in some one of the industrial concerns, and which was destined to suffer frightfully from the dread thing, the men had gone to their work, the women to their simple household tasks, while the children were playing about, or on their way to school.

The city was all alive with interest in the general elections which were to take place on December 8, and in which the momentous issue was—Conscription. As to Nature, all was bright and smiling; as to the people, they were happy and intent upon their usual vocations, working and looking forward to the coming Christmas holidays.

In the light of the dire events which darkened it, how great an irony seems the brightness and joyousness of that morning! In the Victoria General Hospital, patients, as well as the staff, were feeling the influence of its brightness. The sunshine flooded the wards, where matters were moving after the usual routine fashion of a general hospital.

With the suddenness of the lightning flash came the catastrophe, whose ravages cannot be fully repaired in a quarter of a century—some of whose ravages, indeed, can never be repaired. Some say that before there came the awful blast which heralded the descent of death and ruin, there was heard for appreciable seconds a pronounced "whirr" as of a revolving fan, or the drone of a near-by aeroplane.

"What was that?" was asked—the thunder which shook the city was the awful answer. The earth literally trembled; the city seemed to be falling under a blow from some giant force. Simultaneously there ascended from the harbor a cloud, fearful but beautiful, winding its black and silver spiral up, up, up, its only limit seeming to be the bright blue heaven itself. In seconds the streets were thronged with white-faced panic-stricken people making for the citadel and the common; the sight on these grounds will never be forgotten by anyone who witnessed it. Some details of that hurried "mobilizing" of the people which haunt the memory were of the aged and helpless carried on mattresses; of women with infants but a few days old, perhaps poorly clad, of children wide-eyed and speechless with fright, tightly clasping a household pet—a dog or kitten, or perhaps a bird; of others cut and fleeing from what they knew not. Any place was to them seemingly safer than where they were.

The general belief was that the city had been shelled—that the Hun's was the hand that had dealt the blow. The truth, however, spread rapidly that a collision between a French munition ship laden with the deadly TNT and benzine had collided with an outgoing Belgian relief ship. But the terrible immediate pressure of effects relegated causes for the awful present to the last place in interest.

At the Victoria General Hospital, beautifully situated in extensive grounds in the south end of the city, the impression held that the city had been shelled and that the hospital was the first building to suffer—there was at the moment not the faintest realization of the extent of the castrophe.

Immediately, however, events crowded to proclaim its proportion, for to the Victoria General Hospital, as to a fortress, began to flee people from every part of the city, especially the sorely stricken north end. Every driveway to the institution was quickly congested by teams and conveyances of every kind, all bearing the injured, the dying, in some cases the dead. Every door to the hospital was thronged by people blood-stained and in some instances terribly wounded and mutilated. Owing to the flying glass from nearly every window in the city, many of the worst injuries were in the nature of facial wounds, which with the freely flowing blood rendered the scene to the uninitiated all the more ghastly.

So terrified were the people, so large was the number of the injured, that throughout the first few days and nights the hospital was literally besieged by those seeking information concerning injured or lost relatives and friends. So great and sudden was the onrush that not only the wards immediately crowded to overflowing, but the floors of the wards, corridors, offices, or wherever space could be found was literally filled with the injured, the dying, the dead, all victims of the explosion. The demands of the time were unprecedented, and to the horror of the situation and its complications was added the fact that the two days following the catastrophe were bitterly cold days, with high winds and accompanying blizzards, two of the worst days of an extraordinarily severe winter. Cold, stormy, dreary were these days—unforgettable!

The Victoria General Hospital found itself face to face with a tremendous situation, sharing fully with the Camp Hill Military Hospital, the Halifax Infirmary, and the Station Military Hospital the demands of the first days of the disaster, until emergency hospitals were provided to facilitate the care of the hundreds of victims of the catastrophe. Later on the Children's Hospital, Pine Hill Military Convalescent Home, the Nova Scotia Hospital, Dartmouth, and established and improvised hospitals in New Glasgow, Truro, and Windsor, provincial towns, began to relieve the congestion.

Immediately there came to us hospital units from the United States, equipped, fresh, and ready for work, greatly relieving the situation generally, and directly facilitating the care and treatment of the injured—"a very present help in time of trouble." Doctors of the first distinction in Boston, New York, Rhode Island, and elsewhere, with skilled nurses and full supplies rendered us and our stricken city such services as have freshly strengthened all the ties that bind us in these days of common struggle for freedom and the world's peace. Americans, splendidly efficient, manned emergency hospitals opened up in the Ladies' College, St. Mary's College, the Y. M. C. A. building, Bellevue, the Waegwoltic Club

and elsewhere. The American Red Cross was speedily on the spot with finely efficient workers. To Americans—the Humane Society of Boston—we owe gratitude for a gift of money to be appropriated to the work of animal relief, as well as for two of its representatives, to assist our own energetic society for the Prevention of Cruelty in its work of mercy among those who could not speak for themselves, many of whom were humanely destroyed, while others were cared for and later returned to their owners.

The captain of the U. S. S. *Old Colony*, then lying in our harbor, at once placed at the disposal of the Victoria General Hospital the skilled ship's surgeon, Dr. Patterson, and further kindly offered to receive and did receive from us many patients whose condition would admit of their transfer. By this generous act the public heart was profoundly touched, and *Old Colony* is now a name which has a deeper meaning to the people of our city. Later on Drs. MacKenzie and Goodall, eye specialists of Boston, joined the forces of the Victoria General Hospital, greatly relieving the tension in this department where the proportion of injuries were relatively large and severe.

For the first days, however, following the disaster the full brunt of the situation fell straight upon the surgical staff of the Victoria General Hospital, the members of which for the first three days and nights had but little rest, and with only such contributory relief as was incidentally afforded them by the arrival of doctors from the neighboring towns, they carried on. This strain was of course extended to or extended itself to the resident staff, the nursing staff, the kitchen staff, the engineers' staff, the office staff—indeed, to all connected with the institution, who, in their various capacities, loyally and uncomplainingly bore their share of the demands of those direful days and nights.

It should be borne in mind, in attempting to realize fully the stressfulness of the time, that three things contributed to make it extraordinary: First, the crowding of the institution, in which there were then many other patients, greatly overtaxed its normal resources; the coming of the seemingly endless train of half-frenzied relatives and friends in eager search for the missing, and the fact that the main building—to say nothing of the other buildings—suddenly had five hundred windows thrown open by the explosion, all requiring to be closed against the inclement weather. Secondly, bedding, food, dressings, and kindred requirements, nurses, help, etc., in quantity and number immeasurably greater than the normal, were required and had to be furnished. And, lastly, with the building in its shaken condition, the weather on the two days immediately following, as has been intimated, was of a severity, in degrees of frost and snowfall, such as has rarely been experienced here so early in the season. But, in spite of all the stress, the rally of doctors, nurses, medical students, and volunteer helpers was noble and cheering.

In the administrative department there was a pressure such as can scarcely be understood, save by those familiar with the responsibility for the proper direction of the affairs of this branch of hospital work. The whole fabric of hospital order and routine was suddenly and violently rent; that it did not give way utterly perhaps may be taken as significant of at least an approach to what is sometimes spoken of in hospital circles as efficient organization and of promptness in response to the imperative demands of the hour.

The number of the dead is estimated to exceed sixteen hundred—that is to say, sixteen hundred persons were killed outright or died before they reached the hospitals or but a few hours thereafter. To this number—more than one-thirtieth of the population of the city—predominantly children and young people—must be added those who, after lingering for many weeks of acute suffering, have died of their injuries. The total number of the injured reached over five thousand, many of them being more or less maimed for life About two hundred and fifty persons suffered the loss of one eye; and about sixty were rendered totally blind, while more than one hundred and twenty-five suffered eye injuries.

The staff of the permanent hospitals could scarcely have continued to stand up under the staggering blow, had it not been for the truly magnificent rally to their aid of the home and neighboring towns, and more particularly of their friends across the border. From the United States, with the first fragmentary news to them of the descent of destruction upon the city, came back assurances of help, and royally were they made good The explosion took place on the morning of Thursday, December 6, and on the Saturday following the first Massachusetts unit arrived under the command of Major Geddings. Exclusive of the Victoria General Hospital, which operated under its own management, the Army Medical Corps stationed here was then in full charge of the relief work, and had made ready for the Massachusetts unit, Bellevue, the mess quarters of the officers of the Royal Canadian Artillery and Royal Canadian Engineers The grim tragedy had converted the institution into an emergency hospital, and such it still remains On Sunday morning there quickly followed another unit from Boston in charge of Dr. Codman, whose distinguished skill was generously placed at the service of the poorest and humblest of the sufferers, and that with a simplicity which won the hearts of our people. Still another unit under Dr. Ladd of Boston was quartered at St. Mary's College, where some of the worst cases were treated, another from Maine under Major Elliott, and still another from the Rhode Island Hospital, Providence, R. I., under Major Hough, and here we see the hand, and heart of our old and valued friend, Dr. John M. Peters, superintendent of the Rhode Island Hospital. We'll no forget ye, John.

Nor should we in our retrospect omit to mention the splendid assistance rendered us in our distress by Toronto, Montreal, and St. John, N. B. The General Hospital, St. John, promptly sent us some twenty nurses, headed by the superintendent of the training school, whose places at home were to some extent taken by married nurses who willingly left their homes to do duty for those who came to us. Our friend, Mr. Webster, superintendent of the Royal Victoria Hospital, Montreal, fairly urged upon us by frequent telegrams assistance which was freely furnished by his palatial institution. But for these and other similar instances, together with the splendid and fortifying rally to our aid of our friends to the south, the difficulties of a time upon which we look back as the most terrible and darkest in all the history of our city must have been enormously increased, to say the least.

All about were the reminders of the woe wrought by the coming to our quiet waters of the ship of death—half of the city a desert waste, scarcely a building in it which did not bear the marks of the bolt of terror, windows gone throughout the residential as well as the business section of the city, and "boarding in" proving utterly inadequate to keep out the intense cold. Hundreds of homeless but physically uninjured required to be sheltered, clothed, and fed; icy winds howled with an almost malign violence; snow fell heavily, the mercury dropping, dropping to a point not often reached in these latitudes, and the con-

tinuance in varying degrees of these and kindred conditions rendered the more sickening the horror of a scene already drear enough, staggering enough to shadow the community for years to come. As has been pointed out, it was saved from utter blackness by the many and splendid evidences of fellowship which came from all over the continent, and conspicuously from the country whose "Stars and Stripes" today, on the far-away battle-grounds of Europe, float side by side with the old Union Jack, the flag of the Land of the Maple, and under whose united folds the great Anglo-Saxon brotherhood contend for the freedom which is their vital breath and native air

ALBUM OF THE RED CROSS SOCIETY OF JAPAN

Distinctive and Characteristic Features of the Japanese Red Cross Hospitals—Modern Equipment of These Institutions

In this issue is published a letter from Baron T. Ishiguro, the head of the Red Cross Society of Japan, which mentions an album of photographs of the buildings of the society. This album, quaintly bound and tied together

Fig. 1. The main gate of the Central Red Cross Hospital at Tokyo. See the Chinese characters on the fence posts.

with orange silk fringe in characteristic Japanese fashion, was sent to THE MODERN HOSPITAL, and a number of the pictures are reproduced with Baron Ishiguro's letter and with this article. The photographs are on the left-hand pages and one begins to look at them from the back end of the book first, and turns the pages backward until he reaches the last one on the front page.

Fig. 2. Hospital ship of the Japanese Red Cross.

A number of the photographs are of hospital exteriors. Each exterior has an architectural beauty of its own, far different from the square box-like architectural type of our occidental hospital buildings. Each hospital has lodge gates, most of which are surrounded by stone copings or iron fences. See, for instance, Fig. 1, which shows the main gate of the Central Red Cross Hospital of Tokyo. Each has precise gardens and hedges, and, in some of the photographs, firs and pines with stripped trunks and spread-out, stunted tops are silhouetted black against the background of the sky or the building itself, as in the illustration on the front cover showing the hospital of the Akita Committee of the Red Cross.

Fig. 2 shows a hospital ship of the Red Cross. Several

Fig. 3. The nurses of the Central Hospital of the Red Cross Society of Japan learning Japanese etiquette.

group pictures show the directors, medical men and supervising nurses, taken in military formation, and one of them, which shows white-clad nurses on a field in stretcher-bearer practice, gives a perspective as accurate as the rungs of a ladder.

One of the most characteristic and interesting of the photographs is the one which shows a Japanese interior,

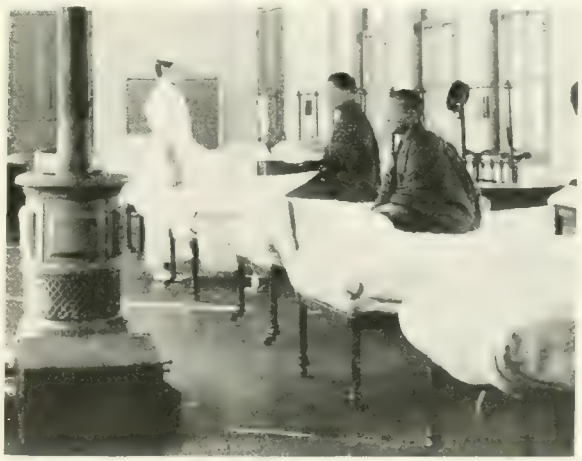


Fig. 4. A ward in the Central Hospital of the Japanese Red Cross at Tokyo.

matted floors and open shogi looking toward a garden, where the nurses, in their own native dress, are being taught Japanese etiquette (Fig. 3).

Some of the other photographs show completely equipped and orderly rooms for out-patient departments, radiographic laboratories, hydrotherapy, and pathological laboratories where each piece of equipment has its place and is in its place, and the bottles on the shelves are every one of them at an even distance from the bottle next in line.

The living room in a nurses' home is just like the same room in a nurses' home in this country. The character of

the picture differs only because of the uncorseted figures, oriental features, and high full caps of the nurses who make the home atmosphere of the picture.

The pictures of operating rooms show splendid interior construction, floors of large tiling, beautiful lighting for daylight and well-arranged artificial light for night work. There is the best of equipment in tables, standards and steel dressing drums, and other accessories for good operating-room technic. Fig. 5 shows an operation in the Tsing-Tau hospital of the Red Cross.

Fig. 5. Operating room in the Tsing-tau hospital.

The album of photographs surely shows that the Japanese Red Cross has splendid hospitals, doing scientific work, and that their hospitals have not lost their artistic national character or architectural beauty.

THE MEMOIRS OF A HEAD NURSE

I. A Japanese Nurse, Hisa Nagano—An Appreciation of a Wonderful Character*

Hisa Nagano was a little brown Japanese woman. Her hair was shiny and black, brushed straight back from her forehead, and done up in a little soft knot at the back of her head. Her face was quite scarred from an early attack of smallpox, and her eyes were so heavy-lidded that you seldom really saw them at all, except when she opened them to look straight at you, as she did when she talked to anyone.

In those days when I knew her, her position was not dignified by the name of assistant superintendent or superintendent of nurses, but she was known as the head nurse. She wore uniforms made of pink-and-white striped gingham, to distinguish her from the blue-and-white striped nurses. Her hands and feet were very tiny, but she possessed a power of endurance that was hardly comprehended by the Americans who worked with her. I have seen her, in strenuous times, when the hospital was crowded with patients and short of nurses, stay out of bed day and night and day and night again, lean against the wall once in a while and sleep on her feet for a few minutes, and then go on again, and keep this up until someone forced her to stop.

Miss Nagano had come to this country to continue her hospital training after having some preliminary work in London. With her came another Japanese girl of higher rank who wished to take the nurse's training in order to return to Japan to teach native women in the hospitals there. The other had returned and Miss Nagano had stayed on as head nurse in the hospital after her graduation.

Her English was very literal. She used few adjectives, and never seemed to be able to assimilate our idioms or our slang. Her greatest pleasure was to go downtown to eat at an exclusive restaurant and to see a good play, and she would come home full of the wonder of it, and tell us all about her impressions in the most quaint and delightful way. When Miss Nagano had been to a play, everyone who could would gather around to hear about it.

One time one of the doctors and his wife had taken her to see Julia Marlowe play in "Romeo and Juliet," and when she returned she rehearsed the great tragedy, with her eyes shining and her breath catching as she told of Juliet, when she goes to the apothecary to get the sleeping potion, and the scene in the tomb. We were all gathered around her, held breathless by the intensity of her description, when a passing nurse hailed her with, "Hello, Miss Nagano, did you have a good time?"

Miss Nagano's face clouded with anger for a minute as she answered, "How can you say good time, to see such sorrowful play?"

She was inordinately fond of pink roses and sweets; she said once, "Love pink roses so much, I guess maybe some day I sell my soul to devil, just for three little pink roses," and a plateful of fancy cakes would make her happy all through a hard day.

One day, some of us younger nurses bought some fancy French pastry cakes, and, watching our chance, put them on a table in her room when she was not there. That day, each of the guilty ones, as Miss Nagano quickly passed them by, received a kindly little pat on the shoulder, and this, "Some bad little smart bird put cakes on table, I eat all up, every crumbs."

She would often sit silent, after the work was done at night, for a long time, and wouldn't talk to anyone or answer questions. Once, at the beginning of one of these silent times, she said, "Must think now, nurse been naughty, can't get nurse off mind." Another time, when someone said, "A penny for your thoughts, Miss Nagano," her answer was, "My mind, my feet, my hands, here; my heart fourteen thousand miles away tonight in Japan." Another night she said, "Been very bad day, people very sick, some people die, no help. Day is done. Good Lord find some way through every day."

Miss Nagano finally went back to Japan to teach nursing, but not for long. She became homesick for America and returned here to the hospital, and while there contracted tuberculosis. The doctors thought that if she went back again to her native climate and food, she would stand a better chance of making a recovery, and so she returned to Tokyo and died there.

*This is the first of a series of hospital sketches by a supervisor who has spent years in hospitals, in contact with the little comedies and tragedies and character-buildings afforded by life in a hospital.

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

The Consecration of the Nursing Profession*

By ANNIE W. GOODRICH, R.N., President of the American Nurses' Association and Inspector General of Nursing Service of United States Military Hospitals, Washington, D. C.

Members of the American Nurses' Association:

We have come together in the most momentous period, not in the history of this country alone, but in the history of the world, to consecrate ourselves anew to the service of humanity through our chosen profession. No other purpose would justify our turning for the briefest moment from the various fields the demands of which, not less in one field than in another, cannot today be adequately met.

As, in our desire to render our fullest service, we fix our eyes upon the overwhelming tragedy into which the world is plunged, and in some measure is borne in upon us its unutterable anguish and despair, its superb endurance and renunciations, and its marvelous scientific achievements in the destruction and reconstruction of the work of God and man, how infinitesimal, how almost inconsequential and trivial, does any individual contribution seem! But, even as the tiny mountain streams, growing ever and ever mightier in their consolidating strength, find themselves at last in a vast ocean through which they present an overwhelming force, so our puny individual efforts, through unification of purpose becoming a greater and greater factor in the conservation of human life, have merged into an army that has been called to take its place with the greatest army that has ever been brought into existence. For the first time in the history of our country a division of women is included in the military establishment in an almost definite ratio to the number of men: one million men, 10,000 nurses; four million men, 40,000 nurses. Upon this body, whose function is the conservation of life not less than the body whose function is its destruction, is imposed a service that no personal sense of inadequacy permits of escape. Such service as can be rendered must be rendered by every member of our profession today so that, through the forceful hands of men and the healing hands of women, a purified world may be prepared for the generations that are to come.

It is therefore our highest duty, during the few days when, gathered together from all parts of the United States, we meet for the consideration of each aspect of the situation in which we are involved, to prepare a program of work that looks to the most far-reaching results in every field; that leaves no stone unturned to treble, not alone in numbers but in efficiency, our nursing strength.

Through simple and effective organization we must make it possible to carry to the most remote corner of each state our message to every member, that each and every member may make her full contribution of nurse power. Our reorganization was indeed timely; the effect of the national organization to decentralize, throwing back upon the state the burden of its responsibility, is in strict accord with the policy of the Federal Government and is in contrast to the policy pursued at the time of the Civil War in such matters as the draft and other similar measures. Little did those whose vision brought these great associations of ours into such early existence, providing them with an official place, dream of the public service they would be called upon to, and through such means only, could effectively render.

Through ever closer and closer cooperation with all sister organizations must the woman power of the country, so increasingly great, be brought to strengthen our hands, so overfull and still so pitifully weak. Ours is essentially a woman's problem and, therefore, theirs to understand and aid. To the institutions of higher education already responding to our needs must go a stronger and more far-reaching appeal that the interest of our girls be aroused, not alone to the dramatic element of the nursing field at this time, but to the great verities of its service to civilization, its potential contribution to the happiness of the race through the conservation of its health, its potential contribution to its spiritual and mental development so dependent on the normal body, the part it may play in the diminution, or even the eventual abolishment, of those institutions that are as much monuments to the defects of our social state as are our institutions of learning and religion to its virtues—our institutions for dependents, for incurables, our prisons, penitentiaries and jails, whose heavy doors have closed and are still closing not only on the men and women victims of our social system but on the children, blotting the sunshine out of lives that can only reach an efficient maturity through its rays. Of whom should we expect a more penetrating vision, a broader social interpretation, than those in whose hands is placed the shaping of the thought and, through the thought, the lives of the citizens of tomorrow and those whose thoughts have been so shaped? I should not think that there would have to be a war to call our students to the nursing field or to make faculties perceive its social values. Inspired by visions of usefulness, equipped with sounder tools through which to reach their goal, these nurses of tomorrow should break down walls that we of today have never tried to scale. There is another group that we must reach and make our call ring in their ears—for their own sake not less than for the sake of those who need their services—the young women who, through the fortune of environment, are not compelled to earn their daily bread—until they take their place beside their sisters who have always toiled, sharing in their renunciations, and rendering a service so complete that they shall not suffer the after smart of undeserved applause, but shall reap the benefits that accrue to those who have demanded of themselves a full conformance to the requirements for a chosen field. And lastly, ourselves—what is our program for ourselves—the army of trained workers called to the side of these men, picked men, men that it was planned, or so we thought, should build through years of healthy, happy manhood our democracy? Never in our history have we been so under fire, never perhaps again will there be such a period of testing. With all the strength we have, with all the undreamed-of strength we can summon, in every manner of which we can con-

*President's address, American Nurses' Association, Twenty-first Annual Convention held at Cleveland, Ohio, May 7 to 11; presented here by courtesy of the *American Journal of Nursing*.

ceive, through every avenue of service we can find, we should seek to raise the standard of nursing so immeasurably above the service rendered in all previous wars, in the military field of today, in civil life, that, after this ghastly struggle is over, freed, through a record of high service, from commercial uses, the hamperings of social prejudices, the limitations of inadequate preparation, our profession may contribute in fullest measure to the restoration of this crippled, scarred humanity. *This is our sacred legacy of labor from the young fathers of the country that their supreme sacrifice may bear fruit through a fair, unblemished manhood of tomorrow.*

I wish, if it would make my message stronger, that I might have come to you with knowledge gained first hand, not alone from our camps of preparation, but from those under fire; but what I have seen leaves me in doubt as to our attitude or action at this time whether as part of the military establishment or serving our country through some other field. And in my conception of this service, the military system plays no small part. In this establishment we have, through the unification of forces, a body of labor that gives the greatest return in the shortest period of time, a system of control and direction that establishes simply and incontestably the authoritative voice. Its demand that all accessories that consume space, time, or thought that are not needed for its own designs shall be abandoned, commands a maximum of individual service. Through it was achieved the greatest engineering and sanitary feat of the century, if not of the ages. However short it may have fallen of its own or the communities' desired achievements, at this time its great accomplishments already justify its methods and commend its system for situations where concentrated effort and concerted action are required.

The official bulletin for April 8, reviewing the first year of America's participation in the war, states: "The outstanding feature of the first year of war has been the sudden transformation of America's young and able manhood into an army that today numbers 12,380 officers and 1,528,924 enlisted men, whereas one year ago today the total actual strength of this uniform force was but 9,524 officers and 202,510 enlisted men." Gathered from every walk in life and accustomed to an individuality in thought and action, through citizenship under a government that has not heretofore expressed itself in terms of autocratic control, this great army is uncomplainingly learning its rapid and rigid lesson in the subordination of self to the machine. For it, and in no small measure through it, plains have been converted into cities, and great hospitals, scientifically equipped, have arisen almost overnight. Here we have been called to take our place, but with no stern exactions, rather with all the considerate thought that could be given in this time of stress and strain, and to render not a new and unchosen service, but one of our own election. In order that we may discharge our tasks, more heavily weighted with responsibility than appears on the surface, we are asking the device whereby authority in the military system is universally recognized. It should be given us, it has not been denied. Its accordance may mean a conformance to its customs and traditions not hitherto required. I think such conformance should require no military action. Is it too much to ask, I wonder, that we who have seen life at such close range, who have been privileged to come close to its great truths with all its foolish trappings stripped away, should of our own accord demand of ourselves a strict observance of these military customs so that, in every way, we shall promote and not retard the efficiency upon which so much depends? Is it too much to require ourselves that, as long as this war lasts, we conceive of our service, wherever it is rendered, as our recreation and our recreation as a service that we will not now endure? Such an attitude of mind would find no hours too long to devote to the accomplishment of its self-imposed tasks; no heretofore diversion would have power to attract, and no time and space consuming customs of dress be tolerated. The service to be rendered by our profession in these great camps, even as in our cities, is limited only by the vision of those who perform them, and nursing procedures are not the only items in the list. With minds purged of all selfish interests, intent alone upon the consummation of a gigantic task, let us perform our part. The manhood of our country has been called to undergo a testing not less cruel and searching for soul and mind than body; are they to emerge triumphant helped by our hands or hindered by our presence? Pray God that in this crisis of the nations we nurses may not fail.

Let us, therefore, tonight consecrate ourselves and our service anew for all the days, the months or years, if need be, of this great struggle even as that master voice, who, too, learned of life "from the inside," has consecrated his song:

"To the men of the tattered battalion which fights till it dies,
Dazed with the dust of the battle, the din and the cries,
The men with the broken heads and the blood running into their eyes.

"Not the ruler for [us] but the ranker, the tramp of the road,
The slave with the sack on his shoulder pricked on with the goad,
The man with too weighty a burden, too heavy a load.

* * * * * * * * * * * * *

"Others may sing of the wine and the wealth and the mirth,
The portly presence of potentates goodly in girth:
[Ours] be the dirt and the dross, the dust and the scum of the earth.

"Theirs be the music, the color, the glory, the gold;
[Ours] be a handful of ashes, a mouthful of mold.
Of the maimed, of the halt and the blind in the rain and the cold."[1]

* * * * * * * * * * * * *

To these shall our service be rendered. Amen.

Report of the Nursing Resources in the State of New York as of November and December, 1917

By MARIE LOUISE, Chairman, General Committee on Census, New York State Nurses' Association.

At the request of the General Medical Board of the Council of National Defense, the New York State Nurses' Association authorized a census and survey of the nursing resources in the state of New York. The purpose was to determine the number of individuals who were engaged in the different classes of nursing service, as well as in the broader divisions of nursing specialties. The results of such a survey would then give a definite basis in planning the organization of nurses for war emergencies, both at home and abroad, and, further, would show definitely where nurses are needed most, thus enabling us to direct women who wish to enter the nursing field as a patriotic service to those sections of the state.

The method of procedure was similar to that used by the nursing committee of the Mayors' Committee of Women on National Defense during the summer of 1917.

Although there are fifty-seven counties in the state outside of Greater New York, only forty-two chairmen were appointed, some counties being small enough to be combined under one director; several chairmen had as many as three counties, while the majority had only one. The census of one entire county and parts of two others was taken through this office.

[1] A Consecration, by John Masefield.

The four types of questionnaire forms were provided by the American Nurses' Association, and all other stationery, envelopes, authorization forms, directions as to "How to Make the Census," and all individual record cards were furnished by the New York State Nurses' Association.

Some of the problems that presented themselves in the actual process of taking the census in the state were very different from those found in New York City. The inaccessibility to the many small towns and townships, inability to reach these by telephone, the lack of proper organizations, such as registries, etc., through whose agency groups of nurses can best be reached, as well as the busiest season of the year, probably account largely for the fact that the work of the census has extended over a period of four months, and is even now not so complete as we should like.

Two counties reported no nurses, and in two the work is so delayed that the census of these cannot be included in the general total.

Many new and original methods were brought into use by progressive county chairmen. Publicity through newspaper articles and notices was probably one of the most efficient means in bringing the unattached nurses to register. Many druggists in country districts and doctors in small towns gladly gave their cooperation in sending names of nurses registered with them. In many sections where we expected difficulties we had splendid assistance, and the Chautauqua School of Nursing as well as the National School for Certified Nurses sent complete lists of their graduates in the state.

A statistical report has been made out showing the nursing resources, all institutions, and organizations, by counties, which may serve as a guide for officers recruiting nurses for the Red Cross. In this report, however, only the collective results are given.

TABLE A.—NUMBER OF ORGANIZATIONS RECEIVED AND NUMBER OF NURSES SO EMPLOYED OR REGISTERED

	No.	Nurses so employed	Percent total
Registered and accredited hospitals	90	6,032	37
Unregistered hospitals and sanatoriums	105	1,187	7
Homes and orphanages	51	412	3
Registries, commercial	31	1,788	11
Registries, non-commercial	37	1,974	12
Alumnae of registered hospitals	62	4,059	24
Alumnae of unregistered hospitals	2	273	2
Public health organizations	64	522	3
Total	442	16,247	100

There are more alumnae and nursing organizations than indicated above, with a corresponding increase in membership. In weeding out duplications in counties, some chairmen thought it would be confusing to return questionnaire of alumnae membership whose nurses had already been recorded in registries, hospitals, or public health organizations; hence the number in the table, 4,059, is really no true indication of the membership in nursing organizations. The 90 registered hospitals employing a total of 6,032, 37 percent of total, include eleven state hospitals, the personnel of which is 2,596. The 105 unregistered hospitals and sanatoriums employ only 1,187, or 7 percent of total; homes and orphanages the small number of 412, or 3 percent.

The most astonishing fact is that the state of New York has only very few nurses engaged in the important field of public health service, 522 in all, in comparison to 1,391 doing this work in New York City. Fifty percent of the entire total are employed in private nursing.

Although all duplicates had been removed in the individual counties, considerable elimination was still necessary, some graduates being claimed in as many as four counties. The final count showed a total 15,870 nurses distributed over the several groups as shown in Table B:

TABLE B.—INDIVIDUALS GIVING NURSING SERVICE ACCORDING TO THEIR STATUS

Total	Graduate nurses	Reg. nurses	Red Cross	Not reg. nurses	Attendants			Prac. Nurses
					Pupils	Tr.	In tr.	
15,870	6,993	3,888	808	3,101	3,076	1,316	587	3,898

Considering these numbers in relation to the population, we find that three persons in every thousand per population give nursing service. Greater New York showed the same ratio. However, there is a marked difference in the status of the nurses.

TABLE C.—RATIO TO POPULATION OF VARIOUS CLASSES OF NURSES

		Per 1000
Population of New York State (1915 census)	5,309,557	...
Number of individuals giving nursing service	15,870	3.
Graduate nurses	6,993	1.3
Registered nurses	3,888	.7
Pupils	3,076	.6
Practical nurses and attendants	5,801	1.1

Only about 40 percent of the entire total are graduate nurses, and only a little over half of these are registered. Table D shows the branches in which these are employed.

TABLE D.—BRANCHES IN WHICH NURSES ARE EMPLOYED

	Graduate nurses	Reg. nurses	Red Cross	Not reg. nurses	Percent Red Cross	Percent R.N.
Total number	6,993	3,888	808	3,101	21	54
Institutional	1,705	816	142	889	18	50
Public health	268	237	44	31	19	98
Private nursing	2,519	2,565	191	954	12	60
Unspecified	2,401	1,270	282	1,227	22	50
In service (Red Cross)	...	...	149	.....	18	..

The entire total of graduates is 6,993; of this number 3,888, or 54 percent, are registered; 808, or 21 percent, of these are Red Cross nurses. The graduates employed in hospitals number 1,705; of these 816, or a fraction over

50 percent, are registered; 142, or 18 percent, are Red Cross nurses. Of the 268 employed in public health specialties, 237, or 98 percent, are registered; 44, or 19 percent, of these are Red Cross nurses. Of the 2,519 nurses registered for private nursing, over 60 percent are registered, and 191, or 12 percent, are Red Cross nurses. The group listed as "unspecified," the majority of which are probably in the private duty field, totals 2,401; of these 50 percent are registered, 282, or 22 percent, are Red Cross nurses. Of the entire total of Red Cross nurses, 149, or 18 percent, are in active service.

NURSES EMPLOYED IN PUBLIC HEALTH SERVICE

Through the courtesy of Dr. Biggs of the state board of health and Miss Bridgeland of the Metropolitan Life Insurance Company, complete lists of nurses specializing in public health work were received, totaling 522. These are distributed over the fields shown in Table E.

TABLE E.—DISTRIBUTION OF PUBLIC HEALTH NURSES

	Registered	Not registered	Practical
General visiting nursing	42	9	54
Infant welfare	5	4	1
Industrial nursing	8	1	14
Social service	8	1	0
School nursing	60	5	9
Tuberculosis	27	4	20
Metropolitan Life	18	19	2
Maternity	0	0	104
Miscellaneous	49	8	51
Total	217	50	255

Grand total—522 public health nurses.

The public health questionnaire and individual record cards received from counties totaled only 427. This discrepancy is no doubt due to the fact that some counties are incomplete and in some information was unobtainable.

The twelve state hospitals, eleven of which are registered, employ a total of 2,596 persons to care for those who are mentally ill. Table F gives this personnel according to status.

TABLE F.—NURSING PERSONNEL OF THE TWELVE STATE HOSPITALS

Total number	R.N.	Red Cross	Not R.N.	Pupils	Attendants Tr.	Attendants In tr.
2,596	109	9	555	309	1,125	498

A study of this table shows that only 109 of the entire personnel are registered nurses, 9 of these being Red Cross nurses. Five hundred and fifty-five are graduates who probably are not eligible for registration, and probably only a small number of the 309 pupils qualify educationally for registration on graduation.

The 1,125 trained attendants are those who have received the specified three months' course in state hospitals, and 498 are receiving this instruction. This makes a total of 2,596, or 15.5 percent of the entire total, giving nursing care to the mentally ill.

The most salient feature that the census has brought to light is the small number of Red Cross nurses compared to the total number of registered nurses. The official Red Cross list was received from the Red Cross district chairmen and on February 1, 1918, numbered 808; of this number 149 are in service and about 50 are organized on base hospital units. This number is barely 21 percent of the entire total of registered nurses.

We are anxiously looking to the registered hospitals to help swell the ranks of the Red Cross with their large body of well-trained young women, patriotic and zealous to serve. And so the directors of nurses in these hospitals have been urged to direct their outgoing seniors, especially those who are best fitted for the work, in the army and navy service.

Table G shows the total pupil nurse staff enrolled, the number graduating in 1918, and the number that can be admitted during the year.

TABLE G.—TOTAL PUPIL NURSE STAFF ENROLLED AND NUMBER THAT CAN BE ENROLLED

	No. inst.	Total enrolled	Graduating 1918	Enrolled fall 1917	No. that can be enrolled
Registered and accredited hospitals	90	2,769	857	1,022	1,316
Unregistered hospitals	24	307	135	102	186
Total	114	3,076	992	1,124	1,502

The results shown in Table G seem most encouraging. At least 50 percent, or 500, of those graduating can be made available for war service. The large number, 1,124, enrolled in the fall of 1917 clearly shows that the interest of young women has been directed toward the nursing field. It is now up to the nursing profession to see that the schools of nursing secure their full quota of students for the year and to the hospitals to increase their facilities so as to accommodate as many more.

The trained attendants, attendants in training, and practical nurses form over 33 percent of the entire total of individuals giving nursing service in the state. Table H shows these classes.

TABLE H.—TRAINED ATTENDANTS, ATTENDANTS IN TRAINING, AND PRACTICAL NURSES

Total	Trained Men	Trained Women	Attendants In training Men	Attendants In training Women	Practical Men	Practical Women	Certified nurses	Corresp. nurses
5,801	583	763	261	326	137	3,198	283	280

A study of how this class is occupied shows that 1,623 attendants and attendants in training are employed in state hospitals. Fifty-three attendants are registered in registries, leaving only 227 employed in other institutions. Practical nurses are more widely distributed, and a comparatively small number only are employed in institutions and public health organizations. There are 996 listed in registries for private nursing, leaving many hundreds that are working independently throughout the state.

The graduates of the Chautauqua Correspondence School and the National School for Certified Nurses are also largely employed in private nursing.

COMBINED CENSUS OF GREATER NEW YORK AND NEW YORK STATE

Table 1.—Number of Institutions Concerned With Nursing Service in New York State

	Greater New York	New York State	Total	Number of persons Giving nursing service: Greater New York	New York State	Total
	No.	No.	No.			
Registered and accredited hospitals	56	90	146	5,303	6,052	11,355
Unregistered hospitals and sanatoriums	123	105	228	2,700	1,187	3,887
Homes, orphanages, etc.	53	51	104	129	412	541
Registries, commercial	31	31	62	3,252	1,788	5,040
Registries, non-commercial	52	37	89	3,447	1,974	5,421
Alumnae registered hospitals	51	62	113	7,279	4,059	11,338
Alumnae unregistered hospitals	10	2	12	321	273	594
Public health organizations	125	64	189	1,391	522	1,913
Other nursing organizations	20	0	20	4,934	0	4,934
Total						45,005
Net total after elimination of duplicates in New York City file						33,247

Table 1 shows the number of institutions training nurses, unregistered hospitals, and other organizations concerned with nursing service in the entire state, with their personnel.

Table 2.—Total Number of Individuals Giving Nursing Service

New York City	17,377
New York State	15,870
Total	33,247

Table 3.—Population and Number Per Thousand Giving Nursing Service in the Entire State

		Per 1,000 population
Population of New York State	10,336,778	
Total number individuals giving nursing service	33,247	3
Total number graduates	17,301	1.6
Total number registered nurses	10,347	1
Total number pupil nurses	6,115	.5
Total number attendants	3,155	.3
Total number practical nurses	6,676	.6
Total	33,247	

Table 4.—Graduate Nurses in the State and the Fields in Which They Are Employed

Type of work	Graduate nurses	Reg. nurses	Not reg. nurses	Red Cross
Institutional	4,250	2,558	1,962	483
Public health	1,328	1,214	214	222
Private nursing	5,701	3,267	2,434	1,322
Unspecified	5,752	3,308	2,349	482
Total number	17,301	10,347	6,959	2,509

It has been estimated that 600 of Greater New York's Red Cross nurses are in active service, and, with the 149 nurses of the state, there are now a total of 749 nurses in active service.

Table 5.—Pupil Nurses in Classes

	No.	New York City	New York State	Total
Total enrollment in registered hospitals	146	2,746	2,769	5,515
Total enrollment unregistered hospitals	41	293	307	600
Total	187	3,039	3,076	6,115

Table 6.—Pupils Graduating 1918

	New York City	New York State	Total
Pupils graduating 1918	827	992	1,819

Fifty percent or more of these will be available for Red Cross service.

Table 7.—Pupils Admitted During the Fall of 1917 and Those That Can Be Admitted During 1918

	New York City	New York State	Total
Admitted fall of 1917	1,000	1,124	2,124
Can be admitted 1918	1,836	1,502	3,338
Total	2,836	2,626	5,462

Table 8.—Attendants, Practical Nurses, Certified Nurses, and Correspondence Nurses

	New York City	New York State	Total
Attendants	1,252	1,903	3,155
Practical nurses	2,778	3,335	6,113
Certified nurses	0	283	283
Correspondence nurses	0	280	280
Total	4,030	5,801	9,831

Aids

Returns from Red Cross Chapters showed that in all 5,811 women had taken the courses in elementary hygiene or home care of the sick throughout the state.

	New York City	New York State	Total
Aids	1,872	4,139	5,811

Considering the combined nursing resources of Greater New York and New York State, the outlook is most encouraging and with the efforts now being made on the part of hospital trustees and superintendents to increase the housing facilities, admit non-residents, and shorten courses for college women, it would seem hardly necessary to lower the standard in order to meet the present crisis.

The young women of the country are eager and anxious to become nurses, in this way giving practical expression to their patriotism. It is clearly the duty of the public, as a national service, to provide the best possible means to fit them for this work.

There have been many doubting Thomases questioning the final value of the census. I am, therefore, glad to

say that even the uncompleted results have already been used by recruiting officers. The questionnaire, particularly those of the alumnae associations with the names and addresses of their presidents and their membership, will serve as a point of contact in recruiting, and will furnish ready data to the state nurses' association. Aside from this we have the satisfaction of knowing, to some degree, what nursing resources the state has.

I am greatly indebted to the central committee for its support, particularly to Miss Goodrich for her helpful advice and assistance in doing the work of the census, and the privilege of using the office of the nursing committee for three months without cost to the association.

I am most grateful to the many busy nurses throughout the state who gave so generously of their time and money for the census.

The New York State Defense Council through its county chairmen has been of great help to the chairmen taking the census, and it is hoped that a permanent relationship may be established between the two bodies, thus strengthening the defenses of the country.

I am glad to have had the privilege of assisting with this piece of work. The knowledge and experience gained and the many cordial and interesting women met through correspondence have made the most discouraging experiences worth while.

A list of the chairmen who directed the census in the counties and their respective committees is appended.

CENTRAL COMMITTEE ON CENSUS

Mrs. William Grant Brown, Chairman, New York State Defense Council.

Miss Elizabeth Golding, President, New York State Nurses' Association.

Miss Annie W. Goodrich, President, American Nurses' Association.

Miss Carolyn E. Gray, President, New York League for Nursing Education.

Mrs. Anna Hanson, President, New York State Public Health Nurses' Association.

Miss Mary Adelaide Nutting, Professor of Nursing and Health, Teachers' College, Columbia University.

Miss Carolyn Van Blarcom, Director Red Cross Nursing Bureau, Atlantic Division.

Publicly Supported Hospitals Not Subject to Penalty for Coloring Oleomargarine

In March we called attention to the penalty imposed by law on hospitals and other public institutions which color oleomargarine for the use of patients or employees. We are in receipt of a communication from the office of the Commissioner of Internal Revenue in response to an inquiry from a municipal hospital, which declares that "this office has held that a state, county, or municipality in the exercise of its governmental functions, maintaining institutions for the custody and care of those persons coming under its control, may add artificial coloring to oleomargarine served to inmates, patients, or prisoners, without incurring liability as manufacturer under the Act of August 2, 1886, as amended, provided these institutions are supported solely by the government controlling them.

"Should any of the product colored be served to employees or other persons for compensation or consideration, liability as manufacturer would be incurred."

Hospitals not entirely supported by public funds, however, are subject to the full penalty of the law if they color oleomargarine served on their tables. The value of these artificial substitutes for butter is discussed in the Department of Dietetics this month. It is unfortunate, especially now that there is such urgent need for use of all the edible fats, that popular prejudice should place these products at disadvantage.

PUBLICITY THAT PAYS

One of Several Bulletins Published by the Montreal General Hospital—The Human Interest Story at Its Best—A Hint to Other Hospitals

A young French-Canadian ran up the steps of the Montreal General Hospital, his face wreathed in smiles. The doorkeeper stopped him for an instant, asking him whom he wished to see, and the lad laughed. "Everybody," he said, hurrying on as if the place belonged to him. "I guess I'm known here all right."

In the hall, he just avoided a collision with an exceedingly grave-looking surgeon in the usual white dress of the hospital, whose face slowly reflected one of the boy's own smiles as he looked at the intruder. "What, you here, you young scamp," he said, "and what are you doing here?"

"Just looked in to pay my respects," grinned the boy. "This is kind of 'home' to me."

As a matter of fact, it was the boy's only home. Utterly friendless, he had first entered the "General" many years ago, afflicted with empyema of the lung. It was an exceptionally bad case, and one operation followed another, until the boy's life seemed to be spent between the operating theater and the surgical ward. Through it all, in pluck and good humor, he was a veritable object-lesson, and endeared himself to nurses and doctors alike. At last, with a hole beneath his heart that a man could thrust his fist into, where several ribs had been removed, the young French-Canadian was able to climb out of his hospital bed for the last time and play the part of an active but very small pawn in the game of life.

The General Hospital clothed him, paid for his board, and for two summers had him sent to a convalescent home and exercised an almost parental interest in his welfare. It helped him later to find light employment, and today not only is he able to keep himself, but this year he expects to save $40, and to put it in the bank "against old age."

His work sometimes takes him away from Montreal for a season at a stretch, but as soon as he returns to the city he loses no time in paying a visit "home," i. e., to the General Hospital, where he is sure of a welcome and of the kindliest interest in all his doings.

For the work of the "General" does not end with curing its patients. Many, on the point of discharge, are found to be friendless and destitute, some even lacking clothes with which to go out into the streets. Crutches and surgical appliances are required by others who have not the wherewithal to buy them. All such cases are dealt with by a special department, for one of the aims of the hospital is to give those who need it a new start in life, even to find them employment, and to mend not only the body but the circumstance of all deserving cases.

This is a great work, when it is remembered that some four hundred patients are treated every day in the wards, and as many again in the out-patient department, representing a total of 273,551 days of treatment last year. Those who help this work, either by subscription or by personal labor, sign their names to one of the worthiest and most necessary undertakings carried out in the city.

Bids have been received during the last month for the construction of the Miller Hospital, at St. Paul, Minn. By the will of the late Martha A. Miller, $1,000,000 was left for the establishment and maintenance of this institution, and it is reported that approximately $500,000 will be expended in its erection.

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
728 Seventeenth Street, N. W., Washington, D. C.
WILLIAM H. WALSH, M. D., Secretary.

Hospital and Medical Treatment of Injured Civil Employees of the United States

By JOHN W. TRASK, M.D., Medical Officer, U. S. Employees' Compensation Commission, Washington, D. C.

There was passed by Congress and approved by the President, September 7, 1916, a law entitled "An Act to Provide Compensation for Employees of the United States Suffering Injuries While in the Performance of Their Duties and for Other Purposes." The law provides for compensation in case of personal injury sustained by employees while in the performance of duty. If the disability for work is of longer duration than three days, compensation is paid for loss of wages. For an injury sustained by an employee in the performance of duty, and whether or not there is any loss of time from work, the employee is entitled by the terms of the law to receive "reasonable medical, surgical, and hospital service and supplies."

For the purpose of the administration of the act, the law created a commission composed of three members and known as the United States Employees' Compensation Commission. The office of the commission is located in Washington.

The fundamental purpose of the law is to repair, in so far as is possible, the damage imposed upon employees by the hazards of industry, to restore injured employees to industry unimpaired where this can be done, and to compensate employees in part for such loss of earning capacity as results from injury. Much of the work of the commission is therefore a question of medical, surgical, and hospital treatment.

The responsibility of the commission under the law may be construed as not only that of furnishing to the employee medical and hospital treatment, but that of furnishing, so far as it is available, that treatment which will be the most effectual in repairing the damage due to injury and of restoring the employee to industry.

The law provides that medical and hospital treatment shall be furnished where practicable by United States medical officers and hospitals, but that, where United States medical officers and hospitals are not available, treatment shall be furnished by private physicians and hospitals designated for the purpose by the commission. Section 9 of the law, which is the principal one relating to this aspect of the subject, is as follows:

"Sec. 9. That immediately after an injury sustained by an employee while in the performance of his duty, whether or not disability has arisen, and for a reasonable time thereafter, the United States shall furnish to such employee reasonable medical, surgical, and hospital services and supplies unless he refuses to accept them. Such services and supplies shall be furnished by United States medical officers and hospitals, but where this is not practicable shall be furnished by private physicians and hospitals designated or approved by the commission and paid for from the employees' compensation fund. If necessary for the securing of proper medical, surgical, and hospital treatment, the employee, in the discretion of the commission, may be furnished transportation at the expense of the employees' compensation fund."

The problem of arranging for adequate and competent medical and hospital treatment is not a simple one. Civil employees of the United States are at work in all parts of the country, even to the smallest hamlet which has its post-office. Not only this, but there are also the field parties doing work in uninhabited or sparsely settled localities, far removed ofttimes from any hospital and frequently even from any physician. The work of civil employees varies from construction work in the building of powder plants and shipyards, and the varied manufacturing work of arsenals and navy yards, to the work of clerks in the departments at Washington, the post-office employees throughout the country, including letter-carriers and those serving rural routes, those engaged in the various activities of the Department of Agriculture, including field parties and forest rangers, and those engaged on projects of the Reclamation Service.

The commission was not organized for some time after the enactment of the law. It is now engaged in extending its arrangements throughout the country for furnishing adequate medical and hospital treatment for injured employees. It is endeavoring to make arrangements where possible with well-equipped, well-managed hospitals, hospitals of such standing that there can be no question but that injured employees will receive adequate treatment. The arrangements are being made with hospitals wherever possible instead of with physicians, because the hospital, in addition to furnishing hospital housing and nursing facilities, makes available a group of specialists, a group of men competent to handle injuries of all kinds, injuries requiring the orthopedist, the surgeon, the ophthalmologist, the roentgenologist, and the internist. In localities where there are no satisfactory hospitals, arrangements will be made with one or more physicians in each locality, preferably physicians having some experience in surgery, or particularly with that class of accidents and injuries which constitute much of the work of what we have come to term the industrial surgeon. The commission feels that, in the interests of the employee and because of its responsibilities, its arrangements with hospitals and physicians must be of such a nature that there can be no question of their competency or adequacy. It feels that it should and can, on the whole, place at the disposal of the injured employee better medical and hospital facilities, i. e., better in so far as their efficiency in the repairing of the injury is concerned, than the employee would usually be able to obtain if seeking treatment of his own initiative and at his own expense.

Medical and hospital services are necessarily of such an unstandardized nature that the question of going into the market and purchasing these commodities is one possessed of difficulty. The commission presumably can pay for what is necessary or essential for the recovery of the employee, but is not justified in paying for things unessential to such recovery, nor is it justified in paying the prices for work that are often obtained by specialists of wide repute—prices that from the point of view of the specialist are entirely justified in that he, in many instances, can occupy his time fully with those able and willing to pay his charges. On the other hand, the commission cannot accept gratuitous service. The work of the commission is not charity, nor are the injured employees

in any way charity patients. Their treatment is a right established by the law of the land. The charges, so far as hospitals are concerned, need be associated with little difficulty. A hospital can readily ascertain what it costs it to care for patients. Every hospital knows its cost per patient per day. Most hospitals know the general cost per patient per day and also the cost per room patient per day and per ward patient per day. It is a simple matter, therefore, for hospitals to establish a "cost plus" basis for charges.

The law provides that treatment of injured employees shall be furnished by United States medical officers and hospitals wherever these are available. The principal medical officers and hospitals available for this work are the hospitals and medical officers of the United States Public Health Service. These are located, chiefly, in the seaports and lake and river ports. In other localities special provision has to be made and, as provided by the law, physicians or hospitals designated for the purpose.

The commission has been sending to general hospitals a letter and schedule, copies of which are shown herewith. The purpose of sending these is to ascertain what hospitals are willing to care for injured civil employees and what their respective facilities are. With the information thus furnished it will be possible to designate hospitals where available pursuant to Section 9 of the Compensation Act. In this work material assistance has been rendered by Maj. W. H. Walsh, M. O. R. C., secretary of the American Hospital Association, and by the Medical Section of the Council of National Defense through Dr. Robert L. Dickinson.

If any hospital which feels that it is suitably equipped to furnish adequate treatment such as is desired fails to receive such a schedule, one can be obtained by making request to the Employees' Compensation Commission, Washington, D. C.

COPY OF LETTER SENT OUT BY THE UNITED STATES EMPLOYEES' COMPENSATION COMMISSION

"The Federal Compensation Act of September 7, 1916, provides that civil employees of the United States injured while in the performance of duty shall be given medical, surgical, and hospital treatment. See Section 9 of the Act, copy of which is inclosed herewith.

"The responsibility of furnishing this treatment falls upon this Commission. The Commission feels under obligation not only to furnish treatment, but, in the interest of the employee, to furnish that treatment which will best restore him to his former efficiency. For this reason it is found advisable to become acquainted with the management and facilities of one or more hospitals in each locality where there is any considerable number of Government employees to which injured employees may be sent.

"If you will be willing to have injured employees entitled to treatment under the Federal Employees' Compensation Act cared for in your hospital, will you please fill out the inclosed schedule and return it to this Commission.

"It will be noted that the schedule provided for the statement of charges contains paragraphs Nos. 1 and 1A for statement of charges for hospital patients. A rate covering the items included in paragraph No. 1 is preferred by the Commission, if it can be given. Paragraph No. 1A is provided as an alternative, in case the hospital finds it impracticable to give a rate as provided in paragraph No. 1.

"Injured employees are to be quartered in the general hospital wards. These patients are in no wise charity patients, but according to Act of Congress are entitled to reasonable medical, surgical, and hospital service to be paid for from a fund provided for the purpose. It is suggested that charges based upon the general hospital cost per patient per day would be reasonable.

"It is assumed that the charges for medical and surgical service will not be greater than would be charged patients of a similar economic status who were paying for their own treatment."

HOSPITAL SCHEDULE

For the period ending June 30, 1919.

To be returned to the United States Employees' Compensation Commission, Washington, D. C.

The.....Hospital, located at . . . . . in the city of . . . . . state of . . . . . will furnish hospital service to injured civil employees of the United States presenting credentials showing that they are beneficiaries of the Federal Employees' Compensation Act.

INFORMATION REGARDING HOSPITAL

Are the general wards used exclusively for charity patients?.....
Are the general wards used in part for charity patients?.....
Can injured employees be cared for in the general ward?.....
Can medical and surgical treatment be furnished by the hospital?....
If medical and surgical treatment can be furnished by the hospital, by whom will this be given? Will it be given by the visiting staff or resident physician? .....
Can the hospital furnish out-patient or dispensary treatment to injured employees not requiring residence in hospital?.....
What is the capacity of the hospital? Number of beds.....
What special facilities or equipment, if any, has the hospital?.....
.....
Has the hospital the following services: Medical?..... Surgical?.....; Orthopedic?.....; Ophthalmological?..... Neurological?.....; Contagious?.....
Has the hospital a clinical laboratory?.....
Is there a trained pathologist in charge?.....
Are case records kept of all hospital patients?.....
Of dispensary patients?.....
Has the hospital an x-ray department?.....
Is there a trained roentgenologist in charge.....
Has the hospital interns?.....How many.....
Has the hospital paid resident physicians or surgeons?.....
Has the hospital an out-patient or dispensary department?.....
Is it open daily?.....What hours is it open?.....
Is its use limited to "free" patients?.....
If the hospital publishes an annual report, please mail copy under the enclosed frank.

CHARGES FOR CARE OF INJURED GOVERNMENT EMPLOYEES

Hospital service in general ward, including (1) subsistence, nursing, necessary medicines, dressings, laboratory examinations, (2) when necessary x-ray examinations, ambulance service and the use of the operating room, and (3) the furnishing of copies or abstracts of case records when desired by the commission, at $..... per day.
Hospital service in the general ward to include.....
.....
.....
.....
.....at $..... per day.
Medical and surgical treatment for hospital patients, at $..... per day.
This treatment will be furnished by.....per visit.
Out-patient or dispensary treatment, including all necessary medicines and dressings, at $.....per visit.
Medical and surgical treatment for dispensary or out-patients, at $..... per visit.
This treatment will be furnished by.....
Signature.....
Title of person signing.
Date.....

Hooveritis

Each paper, book and magazine
Sprouts upward like a geyser
Recipes for saving things;
We're growing thin and wiser!
We salt down beans, dehydrate greens,
Store up foods like a miser;
We're going to preserve the world,
And also can the Kaiser.

—Edith Gooding, in B. R. & P. Railway Employes Magazine.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, in care of THE MODERN HOSPITAL, Conway Building, Chicago.

Oleomargarines and Other Fats

The present necessity for conserving animal fats may prove to be a blessing in disguise to the culinary departments of hospitals and other public institutions, as well as to the households of our country. For a number of years we have had on the market substitutes for butter which were wholesome and nutritious products, but the deep-rooted and emphatically expressed prejudice of those who make up our hospital menus against anything that savors of substitutes has made it impossible for us to make a very general use of oleomargarine which was made of animal fats. One reason for this prejudice was the lack of color in the original product; the same feeling is shown toward butter which has no color. In some way the belief has prevailed that there is a definite relation between the color of the butter and its quality. This belief has prevailed to such an extent that it has been necessary to add coloring matter to butter during a greater part of the year in order to make it acceptable to the general public.

In the spring of the year, when the dairy cow is fed upon fresh green feed, the cream and butter are yellow. L. S. Palmer of the Missouri Agricultural Experiment Station has given as much enlightenment on this subject. He tells us there are two classes of yellow pigment found beneath the chlorophyll of green plants, or at least hidden from the eye by the green color of the plants (chlorophyll). One of these classes is called carotin, from the pigment of carrots, the other is xanthophyll; there are relatively few feeds that furnish an abundance of these pigments and one of them is grass. As this is a summer feed, "it is impossible for the dairy farmer to help the usual condition of his cream and butter during the winter months by feeding his cow any special feed." Even though it is possible to help it to some extent, it is not economical to do so. The fat in the milk carries the yellow pigment, but there is no direct relation between the color of the cream and the amount of fat. He makes the statement that "as a matter of fact, instead of cows giving a low per cent of fat in the winter when the fat is usually naturally colorless, it has been definitely demonstrated that cows on the average give a higher percent of fat during the winter months than they do in the spring and summer." As long as the other qualities are what they should be, there is no reason for the demand that butter or cream be yellow, neither is there any relation between the color and the taste or the nutritive value of the butter.

These latter statements apply equally well to oleomargarine. The recent high price of butter has increased the consumption of oleomargarine to a very great extent for cooking purposes, but there is still much senseless objection to using it on the table. Fat is necessary in the diet; butter and cream furnish this fat in a form most acceptable to many people and none of us will dispute its excellence. With the ever-growing scarcity of milk, it is no longer a question of what we like or dislike. In view of the fact that it requires several quarts of milk to furnish cream enough for a pound of butter, it behooves us to substitute other fats for butter to considerable extent. It is not to be expected that we forego the use of cream and butter entirely.

Some objection has been made to oleomargarine because of lack of vitamines, or food hormones. This is not serious, however, as a diet with the variety found in the average home will supply the necessary food accessories which are present in beef fat, oils, green vegetables and some fruits. Only in the homes of extremely limited means would this danger occur, and it is doubtful if butter is used in these homes, anyway, now that prices are so high. A circumstance in connection with the use of these products which is much to be deplored is that a tax is imposed upon them which makes it difficult for their manufacturers to compete with butter in the market. There seems to be no legitimate reason for this tax, and it is to be hoped that the present war conditions may bring about the removal of this assessment.

The nut margarines which are being put upon the market in such enormous quantities are receiving more favor than have the margarines made from animal fats. The nut margarines are made from peanut oil, cocoanut oil, corn oil, cottonseed oil, and some other vegetable oils, but in this country the chief sources are those above named. These oils are carefully refined and deodorized to remove their characteristic flavor. Milk, in which are cultures of bacteria that will give the flavoring of butter, and salt are added. They contain no animal fat; the ingredients and process of manufacture are such that the nut margarines are a delicate product and require care in handling. They are not stored as animal margarines may be, but are fresh when shipped from the factory. They have practically the same nutritive value as butter, with the exception of the food hormones before mentioned.

Their flavor seems to meet with more popularity than did that of animal margarines, and no doubt their advent on the market will help materially in the conservation of butter.

The Cafeteria in the Nurses' Dining Room at Lakeside Hospital, Cleveland.

The problem of securing competent employees in the kitchens of our hospitals has become a serious one, especially in cities or towns where there are factories or other large industries employing large numbers of people to whom they offer very high wages. Now as never before is it necessary that food materials be utilized to the last particle, yet it is practically impossible to get employees who can be given any responsibility in the care or handling of food. The waste and breakage is appalling to those of us who have previously been able to keep these items down to a minimum.

At Lakeside Hospital the situation has been much relieved by installing cafeteria service in the dining room of the nurses' home. The primary object in establishing this system was to relieve, if possible, the situation which had been brought about by unreliable people, namely, poor service, food served in an unattractive form and with no regard for keeping "hots" hot and "colds" cold, milk and cream invariably being mixed or interchanged,

and an unreasonable amount of waste. This situation no longer exists and the nurses are well pleased with the change.

Previously the service in the dining room was under the jurisdiction of the training school and the same maids did the work there who did the dormitory work in the nurses' home. Under the new arrangement the cafeteria and dining room service have been transferred to the department of the dietitian, with the dormitory work in the home distinctly separate. Under the old system twenty-two maids were required to do the work in the nurses' home. Under the present system four women and four men take care of the entire dining room service, while eight maids do the dormitory work.

We have much more satisfactory conditions and much less waste with a fewer employees. The saving of wages and board of these six employees is another item of economy, but a far greater item is the saving of wear on equipment, breakage, and the waste, which is increased with every person added to our payroll.

Numerous manufacturing plants and other large corporations have published statistics regarding the expense incident to change of employees and training new people, so we will not take space here for our figures; suffice it to say that they are on a par with those published—almost equal to those of the Pennsylvania Railroad.

Our equipment consists of a steam table, salad table with ice-pan compartment and counters of white (carrara) glass, all of these having mountings of German silver; a dishwashing machine, coffee urns and cream dispenser. Our trays are aluminum, and we have three dish carts for gathering up the dishes from the dining rooms. The equipment is very good in every respect, our service room conveniently arranged and attractive in appearance. We serve 200 to 225 people three times daily with no delay whatever. A nurse enters the cafeteria, makes the entire circuit, and leaves with the entire meal on her tray in considerably less than one minute for breakfast and luncheon and no more than a minute at dinner time. Nurses are privileged to return for second servings if they wish.

New York Dietitians Give Conservation Dinner

The New York Association of Dietitians met at the Central Branch of the Y. W. C. A. on April 17. The meeting was in the form of a conservation dinner, and showed how palatable a meal can be served in using the foods which our allies do not need. The meal and recipes were prepared by the class in cooking of the Y. W C. A., directed by Miss Penrose. The menu was as follows:

FIRST COURSE
Vegetable soup
Wheatless wafers
Celery

SECOND COURSE
Meatless loaf
Spinach
Hot war biscuits—nut butter

THIRD COURSE
Pineapple and cream cheese salad

FOURTH COURSE
Maple ice cream
Oaten knickerbockers
Coffee

After the dinner, Mrs. Mary S. Rose, deputy food commissioner of New York state, spoke of the work the state, and New York City especially, were doing for food conservation. She spoke of the continual readjustment of the food situation and the important foods to be saved and those for which we should create a market right now.

Miss Lord of the Pratt Institute spoke of the wonderful work of the national Food Administration—of its gigantic proportions, and of our great duty of cooperation. Miss Lord told very vividly how food would have to win the war and of the necessity of educating the people in the principles of conservation. Miss Lord said it was our personal responsibility to secure loyal followers of the government Food Administration.

Miss George, head of the dietitian division of the nursing service, spoke of the need of dietitians in the service. There are 1180 members of the Red Cross now either teaching or in active service; 42 are in foreign service, 65 in cantonments, and 12 in naval stations.

Miss George read letters from dietitians in France, showing the lack of standardization of the work of the dietitian. She said that we surely would accomplish standardization soon, though. A round table was held after the talks.

The May meeting of the New York Association of Dietitians was held in the nurses' home of the Post-Graduate Hospital. Mr. Panchard, comptroller of the Hotel McAlpin, Hotel Claridge, Cafe Savaran, and the Fifth Avenue Restaurant, spoke on "Waste of Food and Conservation." Mr. Panchard spoke of the necessity of preparing "left-overs" in an attractive way if we are to eliminate all waste from our kitchens. He claimed that Americans did not know the art of preparing cold cuts of meat and vegetables. Mr. Panchard has recommended to the Food Administration the adulteration of wheat flour in the mills beginning with the new harvest.

The Owl That Never Spoke

A popular jingle has been revamped to express the military man's idea of the perfect soldier. The new version runs:

"A wise old owl lived in an oak—
The more he saw, the less he spoke;
The less he spoke, the more he heard—
The soldier wise will heed that bird."

A certain member of the Medical Reserve Corps who is said not to be an apostle of the philosophy of silence found the foregoing too much for his feelings, and accordingly burst forth with the following *jeu d'esprit* on the subject:

"Your wise old owl who lived in an oak,
Who saw and heard, but never spoke,
Who'd sit on a limb and blink and blink
To make his friends think he could think,
One day opened his mouth to talk,
When out came—not wisdom's words, but chalk.

"In other words, that wise old bird
Had never seen, nor had he heard.
You may take the taxidermist's word—
He was only a 'make-believe' wise bird.

MORAL

"The tale of the owl who lived in an oak,
Who saw and heard, but never spoke,
Has this moral: Heads that are stuffed with chalk
Had certainly better not try to talk."

I find the great thing in this world is not so much where we stand as in what direction we are moving. To reach the port of Heaven we must sail sometimes with the wind and sometimes against it; but we must sail and not drift nor lie at anchor."—O. W. Holmes.

The Chamber of Commerce of Junction City, Kas., is preparing a petition for a special election of Geary County, to vote on bonds for the establishment of a county hospital.

WAR TIME INSTITUTION ECONOMIES

Economy in the Engineering and Mechanical Departments*

By FRANK E. CHAPMAN, Superintendent Mount Sinai Hospital, Cleveland, O.

In these times of war, the task of the hospital administrator in effecting all possible economies devolves itself into a twofold obligation. With the increased cost of all commodities, and, in most instances, the disproportionate increase in income, it is compulsory that all expenses be kept at the lowest possible point. In addition to this, and equally important, each one of us owes a very definite patriotic duty to hold to a minimum all expenditures of material and labor in order that these commodities may be turned to war production.

To me has been assigned the subject of placing before you suggestions looking toward a more economical operation in the mechanical department of the hospital. It is suggested that, as a beginning, you go to the personnel of your engine room and put up to them their duty to the institution and their duty to the country at large in this respect. It is further suggested that, instead of taking your engine room performance as a matter of course, each one become better acquainted with conditions as they actually exist and use the information that we thus gain to effect improvements. Most of us think our power plants are fairly efficient, but it really is surprising what we can discover if we will go into the matter.

Boilers.—The boilers being the origin of our power, let us first take them into consideration. Too much emphasis cannot be placed upon a very frequent and thorough inspection. One very common defect in boilers is that the brick wall around the clean-out doors, stoking doors, and even side walls of boilers, is permitted to open up, and, as a consequence, the temperature is reduced in the combustion chamber. Apertures of this kind can be found by inspecting boilers by candle flame and can be stopped by pointing with a stiff mortar of plaster asbestos. It is even suggested that it might be advisable to give all exterior brick walls of the boiler a thin coat of plaster filler troweled on about one-sixteenth of an inch thick. This material can be obtained from any power plant supply company, in barrel or half-barrel lots. In a great many instances, these cracks are not considered of very much importance, and air leaks are overlooked because they cannot be seen.

Another suggestion is that you look after your baffle walls. These walls are rather inaccessible, hard to inspect, hard to repair, and very often are allowed to deteriorate by reason of lack of knowledge as to their condition. It is very important that they be kept as near intact as possible in order to cause a proper passage of gases over the heating surface of the boiler.

Keep your boilers clean at all times. An accumulation of pockets of soot on the heating surface, in flues, and around tubes bespeaks inefficient operation. Soot blowers should be used regularly, but they are not always efficient. Every opportunity should be taken to inspect the boilers, clean out places not touched by soot blowers, and at the same time make an internal inspection of the boilers to see that everything is in good condition, the tubes free from mud and scale, etc. The formation of scale is another thing that must be avoided if you would have an efficient operation. If you find that there is a large amount of deposit, it would be well to have the water analyzed and determine upon the compound to use that will reduce the scale. This analysis is not necessary often, but it will give you the character of the water and permit you to decide what method to use in treating it if necessary.

Watch your coal pile and also your ash pile. If at all possible, it is extremely desirable that both coal and ash be weighed and check kept of the proportionate amount of ash produced each month.

Keep your recording gauges in good condition and insist on reading these records yourself. Let your engine room force know that you are watching their performance. If they do realize this, they will probably be a little more careful of that performance.

Set up a very definite schedule of work for your boiler room help. Make the fireman's performance as convenient as you can, but have a definite time for each of his several duties and see that the work is done.

Steam Lines.—First of all, the importance of having all of your steam lines covered cannot be emphasized too strongly. I have not before me definite authoritative reference as to the percentage of loss in uncovered lines, but I have read these figures and they are indeed startling.

Watch your traps. Steam traps at the best are rather wasteful and, if they are not kept in good condition, will waste an inconceivable amount of steam.

Make use of all the exhaust steam possible. Return water to the boiler as near 212 degrees as is possible, using exhaust steam to reheat the water. Do not permit the hot water from condensation originating at the heating system, the hot-water heater, and cooking and sterilizing apparatus to be wasted. All of these should be returned to the boiler, using as small an amount of raw water as is possible. Watch your leads for leaks. No matter how small they may be, a steam leak costs money.

Engines.—Watch your valve packing and keep it soft and tight. Keep your engine well lubricated. Pick up knocks quickly. Keep everything tight so that there will be a minimum of wear. Watch for steam leaks in your engine.

Repairs.—By keeping all apparatus such as ward sterilizers, operating-room sterilizers, cooking apparatus, etc., in first-class condition you save not only consumption of coal, but also much time and labor in repairs. The adage, "A stitch in time saves nine," certainly is applicable in institutional repairs. A minor repair if taken in the beginning will save a major repair later on.

Ice Plant.—Most of us have undoubtedly received a questionnaire from the government in regard to the consumption of aqua ammoniae and anhydrous ammonia. With the demand for these commodities for war purposes, we are all assured of a very definite shortage, making it absolutely essential that the utmost care be used in consumption. Make careful and numerous inspections of your valves, of the pump, and watch for ammonia leaks on your line. All valve stems should be kept free from rust. Keep the condenser of the machine free from scale and mud by reversing the flow of water often and removing scale when necessary. All refrigeration coils should

*Read before the Ohio Hospital Association at its fourth annual session, Columbus, Ohio, May 29, 1918.

be kept free from a heavy coating of frost. This coating retards refrigeration. This can be accomplished by stopping the flow of brine for a short period each twenty-four hours, preferably at night.

It is suggested that comparative tables of performance be kept. The government will be very glad to furnish statistics for your district showing the mean average temperature, and it is, to say the least, interesting to make comparison of the amount of coal used as compared with the temperature for a given period. Institute a campaign of good power-house house cleaning. If you will pardon slang, keep your personnel "on its toes," and you will unquestionably get results.

* * * *

FOOD CONSERVATION AT UNIVERSITY HOSPITAL, PHILADELPHIA

How One Hosptal Is Doing Its Bit to Win the War in the Kitchen and Dining Room

By MARION E. SMITH, Superintendent, University Hospital, Philadelphia.

It is difficult to write a paper on food conservation, as the needs change almost every week, and as the weekly or daily requests come out in the papers we conform to them at once, but I will give briefly what we have attempted to do here.

We feed about seven hundred people daily. In April, 1917, we started a meatless day, choosing Friday, as so many Catholics are employed in large institutions. We saved $38.42 on our first meatless Friday, which was on April 26, 1917.

The Food Administration then asked everyone to save fats and we at once cut out all butter from cooking, and used lard until we were requested to save pork, since which time we have used and are continuing the use of the nut butters and drippings. We saved $41.32 in butter the first week. We use cream for breakfast only, except on the private floor, and we have recently made a boiled dressing for salads to save olive oil.

The quantity of eggs used in the making of cakes and puddings was cut to half and we saved $22.20 the first week. Although the saving of food is more important now than the saving of money, these items may be interesting from both standpoints.

We have served no lamb or veal since the Food Administration asked us to save the meat of young animals. We have cut bacon entirely, except for the private patients, to whom we give it every day with the exception of Tuesdays and Saturdays, the Food Administration's porkless days.

The private patients get no wheat cereals or wheat flour for cooking, but we buy for them the "Victory bread" from a baker. Of course, all special patients, i. e., metabolic, diabetic, etc., have anything that is necessary when ordered by a physician.

We have used no canned goods of any kind since last spring, but have confined ourselves strictly to the use of the fresh vegetables that could be bought in the market. We planted a war garden in the grounds with the following results:

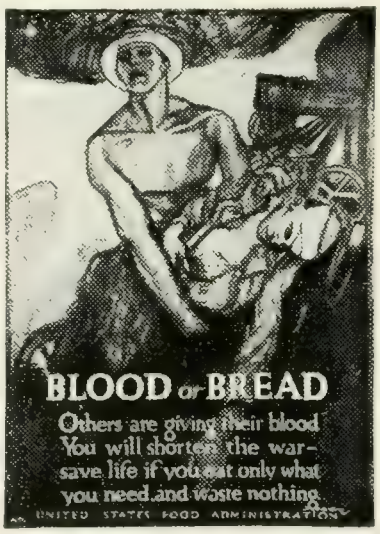
The amount of vegetables grown in the garden, commencing on May 30, 1917: 125 bunches of parsley, 50 dozen bunches of celery, 7½ baskets of beans, 6 baskets of spinach, 6 hampers of white turnips, 6½ baskets of carrots, 4½ hampers of parsnips, 5 barrels of cabbage, 4½ barrels of beets, 10 baskets of dandelion, 21 bunches of radishes (50 radishes in bunch), 3 baskets of lettuce, ½ basket of onions.

Then came the request to save sugar. This we at once cut in half, and at present are serving only three-quarters of a pound of sugar a week a person.

When the request came to conserve meat further we instituted meatless lunches, having two fish lunches besides the meatless day; and, as we have for several years served no meat for breakfast, except to the help, we always have had one meatless meal a day.

On meatless days we serve for lunch a cream soup; either rice waffles, baked beans, or buckwheat cakes; salad, cheese, and stewed fruit. For dinner we have fish with two vegetables, besides potatoes, and dessert. Hashed brown, lyonnaise, stuffed, or scalloped potatoes make the dinner more acceptable.

Since the urgent need for conserving wheat has arisen, we have gone through various stages of conserving it. We bake our own bread, and at first we used 70 percent wheat in the bread six days a week and served white bread one day made of half wheat flour and half white cornmeal. By gradual stages we have used less and less, until for the last ten days we have used none. In the beginning of the wheat conservation one loaf was put on each table, slices


BLOOD or BREAD
Others are giving their blood
You will shorten the war—
save life if you eat only what
you need and waste nothing
UNITED STATES FOOD ADMINISTRATION

being cut off as needed, and in a very short time we were saving three hundred and fifty loaves a week. In the wards bread is taken around on a plate and each patient is given one slice, and more if requested. In January, 1917, we used forty-eight barrels of wheat flour; in January, 1918, we used eighteen barrels of wheat flour and thirty barrels of substitutes; in February, 1918, we used seven barrels of wheat flour and the rest substitutes; in March three barrels and in April none.

The most difficult question has been and is to make good bread without wheat flour. If any of the readers of THE MODERN HOSPITAL can solve this question by giving a satisfactory recipe, it will be most gratefully received.

We are now serving potatoes three times a day and this has saved about one hundred and ninety loaves of bread daily.

We have given up all cereals containing wheat and all crackers containing wheat, and in place of them use hominy, cream of barley, cornmeal, rice, oatmeal, and rolled oats, and use rye crackers entirely.

The bread which we now make from rye flour and rice flour is not light, but to the majority of people it is palatable and wholesome. No other bread is served at the

meals at which cornmeal bread, cornmeal muffins, or oatmeal muffins are served.

Corn starch, corn flour, barley flour, and rice flour are used for the thickening of soups and gravies, and the cakes are made from cornmeal and rice flour. We have recently stopped making pastry of any kind.

The argument may be used that war bread and war cake are not so appetizing as wheat bread, and cakes made with butter, wheat flour, and plenty of eggs; but the conservation of food, in so far as it is consistent with health, comes first, and we have had no complaint from any department of the house that anyone's health has suffered from the change. There is always more or less dissatisfaction among domestics employed in institutions. The other employees have on the whole accepted it gracefully.

No especial credit is due. It is a serious and earnest duty, for nothing in the world matters so much as to win the war, and nothing that has been done here can be considered privation, much less sacrifice. It is all many of us can do, and to fail in this would be selfish, unpatriotic, and culpable.

* * * *

A SIMPLE CHLORINE DISINFECTANT APPARATUS

Economical Home-Made Device for Producing Chlorine Bleach for the Laundry and as a Disinfectant

By PLINY O. CLARK, Superintendent, Ohio Valley General Hospital, Wheeling, W. Va.

We are washing from 17,000 to 25,000 pieces of linen each week and have felt the need of a cheap bleach, one which would not harm the clothes and yet would actually

Home-made apparatus for producing chlorine bleach.

accomplish results, so after observing the way in which the commercial laundries make chlorine, our chief engineer decided he could make for our use an apparatus which would serve all purposes and which could be installed at about one-third the cost of the machines for sale.

Two old alcohol barrels, a plank, four short pieces of 4 by 4's, two brass ⅜-inch valves, about 18 inches of brass pipe, one brass ell, 2 feet of ½-inch rubber tubing, two brackets, some nails, and the battery equipment were all we needed. As will be seen from the illustration, one barrel was mounted on top of a trestle and the other one is also upon a trestle, being raised off the floor at least 12 inches, so a pail can be set underneath the faucet.

It is not necessary to remove the head from the lower barrel; an opening through which the rubber or brass tubing can be led from the battery is sufficient. All connections coming in contact with the saline solution must be brass or rubber. It is not at all necessary to have a slate tank for storage, for as soon as the wood deteriorates, in the course of a year or two, the barrel may be replaced.

The battery will cost, depending upon its size, from $80 to $100 including switch and armature.

To make a barrel full of saline solution 8 pounds of ordinary cattle salt is required. This should be stirred with a wooden paddle until thoroughly dissolved. By passing this solution slowly through the battery with 110 volt D. C. current (A. C. current may be used just as well) requiring from 10 to 20 amperes, the solution is converted into chlorine. This should be kept made up fresh every day or two, but will not deteriorate materially in forty-eight hours.

For a 36 by 54 washer loaded heavily, about 8 quarts of the chlorine is used for water as hard as that found in the Ohio River.

We find that the chlorine not only keeps the clothes soft and white, but it saves 50 percent of the soap. We also use this chlorine freely as a disinfectant about hoppers, slop sinks, kitchen sinks, etc.

This bleach will cost less than 1 cent per gallon.

British Nurses Take Up Gardening

In many British hospitals and infirmaries nurses surrender three or four hours a week to the business of food production, and may be seen hard at work trenching, breaking clods, and preparing the ground for planting, says *The Hospital*, London. In places where allotments are to be had in convenient proximity to the institution, the nurses combine to take up plots, with the added interest of growing what they please and presenting their produce to the charity. The nurses at the Prince of Wales' Hospital, Tottenham, presented two and a quarter tons of potatoes to the institution through their labors last year. Probably, continues *The Hospital*, the idea is capable of much wider extension. After the first shock to the muscles of tackling a hard piece of ground, the labor has a wonderfully invigorating effect, especially upon people whose lives are led indoors. Allotment work is well adapted to the large class who want to help in food production but can only give a fragment of their time. A hundred nurses, giving up an hour every other day to field labor, are equal to thirty full-time laborers, and if every institution helped, according to its situation and capacity, hundreds of fresh acres could be got under cultivation.

British nurses are to be congratulated on their pluck and devotion, and also on the fact that their muscles can derive benefit from "trenching, breaking clods, and preparing ground for planting," in addition to their ordinary hospital duties.

THE WAR: ITS HOSPITAL, MEDICAL AND NURSING ASPECTS

AMERICAN MEDICAL AID TO PARIS CHILDREN

Health Centers Established by the American Red Cross Over Large Areas of Paris—Problem of Rebuilding the Health of French Children

By BERTRAM KELLY, Paris.

France is fighting today not in the trenches only. Behind the lines, in every city and town in France, another battle is being waged, the battle for the health of France's children, for on the children of today depends the France of tomorrow.

That is why the American Red Cross has established, in the poor and residential districts of Paris, health centers combining both medical and social work, for the care of the babies and women of the neighborhoods. Since November 1, nine such centers have been put in operation, all of them in connection with existing French organizations. That was the only way to give immediate and intelligent aid to the French. French organizations for the care of the civilian population are not lacking, but for three years military charities have claimed first attention, and civilian charities have suffered. It has been the task of the Americans to help revive and strengthen these struggling French organizations.

Fig. 1. Dr. Parker, of the Red Cross Children's Bureau, examining a refugee child in the dispensary at rue Boissy d'Anglas.

The plan, as first conceived, was that the Children's Bureau would conduct children's clinics in dispensaries to be opened by the Rockefeller Foundation for the Prevention of Tuberculosis in France. An experimental start was made in the nineteenth arrondissement, one of the most congested districts of slums and factories in Paris, made more crowded still by the addition since the war of six thousand refugees. Here a thorough study of health conditions has been made. It was soon found that one dispensary would be inadequate for the work of even this one arrondissement and early in February another health center was opened in the Rue St. Mingott. Two more are in process of establishment in the district.

Just around the corner from the Place de la Concorde, the most beautiful square in Paris, is one of the largest and most important of these health centers, centering about the refugee dispensary taken over by the Children's Bureau and the Rockefeller Foundation from the "Tuberculeux de la Guerre," of which Mrs. Edith Wharton was the director. Its waiting rooms are full of interest; two days a week they are filled with swarthy-skinned refugees from Serbia, two other days with the forlorn, peaked children from Alsace and the north of France. Three hundred patients are taken care of weekly, including the medical work of the Society of Friends. Dr. Richard C. Cabot of Boston gives this dispensary his personal care.

Fig. 2. A Red Cross doctor ministering to a future citizen of France.

A health center in still another type of community is that in the fifth arrondissement, one of the "tough" districts of Paris (the Rue Mouffetard, said to be the toughest street in Paris, is the social meeting place of the quarter). This center has been opened in connection with the Oeuvre de Mlle. de Rose, a charity founded by Mlle. de Perignan, a granddaughter of Lafayette. Mlle. de Rose has carried on the activities of Mlle. de Perignan since her death in 1906, and from one *patronage* (similar to an American social center) for children and young girls she has developed the work until it now includes a home for working girls, a model tenement house, a vacation home for working girls in the environs of Paris, and several agricultural schools for children in the country.

For all these activities she lacked a health center. The Children's Bureau has supplied it. A dispensary has been opened in charge of Dr. Blair, with clinics for children twice a week, and twice a week for mothers. On the fourth clinic day, when the work was but barely started, twenty-six children were treated.

In two munitions districts just outside Paris health centers have also been opened. Welfare work is already in operation at the factories in one of these districts, and here the Red Cross supplies a doctor for children's and women's clinics, and a nurse for home visiting. It is estimated that three hundred families are thus reached. In the other and much larger district the problem is more acute and less efficiently covered. Mlle. Bassot had conducted a settlement house for ten years and had worked on in her individualistic French way for the good of the neighborhood, but when war came the need was almost too great for her. The district population increased from

seventy thousand to one hundred thousand; two hundred munition factories sprouted like mushrooms over night, but no new buildings to house factory workers were erected. The congestion was bad and spread of disease threatening. Mlle. Bassot appealed to the Red Cross for aid, especially in caring for the women and children. A health center was started under the direction of Dr. Bancroft early in December; the number of weekly clinics soon doubled, and the work is rapidly outgrowing its present small quarters.

Thus a very large area of Paris is covered, and the work has really only just begun. A doctor and nurses have been sent to another social settlement, the Grenelle Mission, in the rue de l'Avre, and a nurse has gone to another, Kremlin-Bicetre. Thanks to American Red Cross aid, a small general hospital has been reopened at Puteaux, a suburb of the capital, to which will be sent nose and throat cases from all the dispensaries of the Children's Bureau in and about Paris.

The scope of the health center enlarges constantly. The health of children depends largely on their nourishment, and one of the first things discovered by the American doctors was that the children who came to the dispensaries were not receiving the proper kind of food. This led to investigation and study. Most mothers had been forced into war work outside their homes and the children had to take their midday meal—the most important meal in the French household—in school canteens. So it came about that late in January the Children's Bureau began providing supplementary food—flour, beans, condensed milk, ham, sugar, tinned beef, cheese bought in America—to the school canteens of the nineteenth arrondissement. This service will be extended to other poor districts of the city.

Fig. 3. Taking histories in the waiting room of a Paris dispensary.

Another important phase of the work is the preparation for its continuance when peace comes and the army of Americans leaves France. Dr. William Palmer Lucas, professor of pediatrics in the University of California, and chief of the Children's Bureau; Dr. William Charles White, of Pittsburgh, chief of the Bureau of Tuberculosis of the American Red Cross; Dr. Livingston Farrand, president of the University of Colorado and chief of the Rockefeller Commission for the Prevention of Tuberculosis in France, and a group of other American doctors, in consultation with prominent Paris physicians, have worked out a plan whereby French nurses will be trained to continue the work, both medical and social. The training period will cover ten months—five in institutional training and five in field work.

It is constructive work, building to bring back to the France of tomorrow the sturdiness and vigor of the France of yesterday.

* * * *

REBUILDING FRANCE THROUGH THE CHILDREN

More About the American Red Cross Children's Bureau and the Oeuvre de Mlle. de Rose

Those who have read Mr. Kelly's article just preceding will be interested in the following, clipped from the *British Journal of Nursing:*

"The American Red Cross Children's Bureau in Paris, of which Miss Leete is the wonderful chief nurse, is organizing a campaign for children's welfare in France, and is inviting reports from all those engaged in this interesting phase of national work. It is proposed to begin before the birth of the child, and to appoint district nurses—thoroughly trained, if possible—and these nurses are to be helped by a few ladies, to be called 'visiteuse d'hygiene,' instead of, as at present, 'garde malade visiteuse,' which they are not. These workers will be chosen from the school of 'puericulture,' and are to be paid, so as to do away with amateur pretensions.

"Dr. Anna Hamilton has been consulted about the work in Bordeaux, as her fame is far-reaching in the states, and she has, of course, given sound advice and practical help in the organization of the work in Bordeaux. Already at the Maison de Sante Protestante there are consultations for expectant mothers, infant consultations and creches, and there will be collaboration with the Children's Hospital and other departments. The committee have granted four wards for the work of the Red Cross Children's Bureau, which will cover the expense, and the nurses trained in the school will be engaged on the recommendation of Dr. Anna Hamilton.

"As about one hundred and forty thousand young children die yearly in France, and now there are many mothers doing men's work and making munitions, the health of the babies suffers in consequence to a terrible degree. In Bordeau it is sad to see the number of tiny tombs in the cemetery."

The Oeuvre de Mlle. de Rose, mentioned by Mr. Kelly, is interestingly explained in a letter by Miss Ashe, published in the *Pacific Coast Journal of Nursing:*

"I stumbled across another settlement in Paris just by chance. The moving spirit is Mlle. de Rose, a descendant of an uncle of Jeanne d'Arc. Her mother is a duchess—very wealthy, influential people. Mlle. de Rose conceived the idea twelve years ago of going into a poorer quarter of Paris to live. She has been teaching every week in a sewing school in this quarter—the fifth arrondissement, near the Latin quarter. The friend under whom she was working died, leaving her work to her as a legacy. She left home (an unheard-of thing in France) and there she has lived ever since, contributing every penny of her income to her work. She has built quite a wonderfully planned tenement (she does not know it is a 'model tenement'); a home for working girls, also wonderfully planned; conducts all kinds of recreational work; has a chorus of three hundred voices, and since the

war has branched out into an agricultural home for orphans. But before I get on to that subject, I must tell you of her trousseaux. When the girls go to work and leave her younger sewing classes, a trousseau is started for them. All of the materials are provided for all kinds of undergarments, bed linen, etc., which is left in a locker at the settlement. They have no name for their work, and have never published a report, although large sums of money have been given them to spend. Mlle. de Rose has evolved, from her own brain, common sense, experience, and ingenuity, a wonderful placing-out system for children. She forms families of not more than twelve, all ages, places them on a farm in charge of a motherly woman and there brings them up normally. These farms are self-supporting, all being under one direct, scientific management of a practical farmer. They bought the land and are rapidly paying off the mortgages on it. She has at present about twelve of these farm colonies under her supervision and is increasing them rapidly. Her right hand is a Miss Hopkins, an American woman who turns over her entire income to the place, and the day I saw her was wearing rubber overshoes because she had no shoes. Their rule is never to ask others for money while they have a cent left of their own. As far as I could discover, it is the only rule they have. I have no doubt that I shall find many more French women of this same stamp, but they are so modest about what they do that it is difficult to unearth them."

Of the Society of Friends, whose work also is mentioned by Mr. Kelly, Miss Ashe writes:

"I hope to visit the 'Friends' place at Chalons before my return. I am more impressed with them than with any people over here. As men and women they are a devoted band. The women make this club their Paris headquarters, so I see quite a little of them. They all show a spiritual quality which I see in no other English or Americans. These people have certainly suffered for their faith, for I think they had a hard time in England at first; now everyone respects their splendid work. Dr. Lucas has backed them up in every way; he is sending doctors to them now, and I hope later on I can get them nurses as well."

* * * *

AMERICAN RELIEF WORK IN LOMBARDY

In Milan One Can See More of War Life Than in Any Other City in Italy

The following interesting description of the city of Milan was contained in a communication forwarded from that city to the *Red Cross Bulletin*:

"Milan, the capital of Lombardy, . . . is the great military center for the armies of the three nations now opposing a united front to the foe across the Piave. . . . Nearly every phase of the work of humanity done under the Geneva flag finds example or reflection here, even to the ambulance work at the front.

"Milan is the base and headquarters for the three American Red Cross ambulance sections now operating along the Piave and in the mountains, driven by one hundred American volunteers who have already endeared themselves to the Italian soldiers. Soon, it is planned, more A. R. C. ambulances will be added to the sixty now at work, and more Americans in khaki will join the one hundred who came first. To Milan come the cars for repair, and the drivers on infrequent leave. It is like coming home, for it was from here that the cars and men started on the trip to the army after presentation ceremonies still remembered in Milan. The picture of the little American ambulance circling before the famous cathedral will not soon be forgotten. . . .

"Milan's importance as a relief center and some insight into present conditions may be gained from a few figures. Lombardy has a population of 5,000,000. From this city 62,000 refugees were distributed to other points: 26,000 remain. . . .

"The American Red Cross has a refugee's home, . . . complete with kitchen, dining-room, two large bed wards, and a sewing room. Another activity of the A. R. C. is the soup kitchen where 250 refugees receive meals daily. . . . In a few days a rest house for soldiers passing through Milan will be opened at the Central Railway station. . . .

"Milan is the largest military hospital section of Italy and the work done by the A. R. C. in this connection is correspondingly great. It is under the direction of Miss Sara Shaw, so long associated with the Bellevue Hospital in New York.

"The problem of the Red Cross in Milan is manifold. Immediately the hungry must be fed; the homeless cared for. This is the phase most intimately connected with the refugees. Milk must be procured for children. Infant mortality in Milan is 160 in 1000 for children under one year of age. It should not be more than 50 in 1,000 say the experts. Soldiers' families who are in want must receive aid and quickly. Nothing so increases the moral stamina of the soldier as to know that his family does not suffer while he is fighting.

"Hospital supplies are always in demand. When they are needed the need is immediate. The soldiers themselves must be well looked after, the wounded and the sick. All of this comes under the mission of the Red Cross and then, most terrible of all the problems, perhaps, is the scourge of tuberculosis which has been so greatly increased by the war."

* * * *

American Red Cross Shelter Canteens in Milan

A number of tents have been set up at the central station, Milan, to serve as shelters for the soldiers passing to and from the battle lines. Three of them are dormitory tents and all the beds are provided with mattresses and warm covers. The other tents are equipped with shower baths, washstands, etc.; one is a sitting room furnished with facilities for writing, books, etc. All are illuminated by electricity. They have been tastefully decorated with flags, pictures, mottoes, etc.

This is the latest work of the American Red Cross which has given so many manifestations of its generous spirit.—Red Cross Bulletin, from Il Corriere della Sera, Milan.

Worse Than War

The hospital to which they took him on the north coast of France was in the hands of an Anglo-American unit. And in the particular ward where he was placed reigned a night nurse who understood but a few words of his language.

The poilu was suffering from a badly shattered leg. They had operated in the afternoon. It was night before he awoke from the effects of the drug administered. Immediately he set up a great howl.

Over rushed the nurse to his side, and was met with a torrent of indignant French. She soothed, scolded him, gave him such nourishment as he might have. No use. Then she remembered a nurse who could speak French, and fetched her. There followed a long colloquy which left the poilu somewhat puzzled but more peaceful.

"Well?" asked the new arrival.

"They didn't explain to him about his arm."

To mend his leg, an expert surgeon had taken some bone from his arm to graft in the shattered limb. So the poilu, who had gone to sleep with only one wound, awoke to find himself with two! No wonder he had raved. He had seen nothing but brutality in the ways of expert modern surgery.—Every Week.

INDUSTRIAL REHABILITATION OF DISABLED SOLDIERS AND SAILORS

Conducted by ELIZABETH G. UPHAM,
Director Art Department Milwaukee-Downer College.

AN AMERICAN SCHOOL OF REEDUCATION FOR CRIPPLED MEN

The Work of the Red Cross Institute for Crippled and Disabled Men of New York City—Subjects of Instruction in Training Classes—The Methods of a Special Employment Bureau for the Handicapped

By DOUGLAS C. McMURTRIE, New York, Director of the Red Cross Institute for Crippled and Disabled Men, President of the Federation of Associations for Cripples, Editor of the American Journal of Care for Cripples.

In the past the main dependence in meeting the needs of crippled and disabled men—either soldiers or industrial workers—has been placed in a money allowance or award in the form of pension or compensation. This has served in a certain degree to alleviate misery, but it has failed of attaining any constructive results.

The policy of rehabilitation for self-support and self-respect through a special type of vocational training has been developed to any considerable extent only since the outbreak of the war in 1914. It does not require argument to prove that this is the only logical method, as wise socially as it is sound economically. The only vocational school for cripples as yet in operation in the United States is the Red Cross Institute for Crippled and Disabled Men in New York City. Although this school is still in its infancy, it may be of interest, in view of the necessity for additional work in this field now imposed upon this country, to describe the manner in which the general principles of reeducation, as developed abroad, have been adjusted to American demands and limitations.

The establishment of this reeducational school was proposed to the American Red Cross in May, 1917, by Jeremiah Milbank, who offered, further, the funds requisite to its foundation. The suggestion was considered favorably by the Red Cross and there was organized, under the jurisdiction of its Department of Military Relief, the Red Cross Institute for Crippled and Disabled Men. In addition to the original gift of well over $50,000, the donor offered the use of the structure at 311 Fourth avenue, New York City, now occupied for the administrative and educational work of the institute. This building will afford instructional accommodation for three hundred men.

While the establishment of the institute was inspired by a desire to build up reeducational facilities which might be of value to the crippled soldiers and sailors of the American forces, it was felt that the problem of the crippled man was a broad one, and in need of attention without discrimination in benefits between civilian and military subjects. It was further felt that the only sound preparation to deal intelligently with the rehabilitation of crippled men at a future date was actual experience in the rehabilitation of crippled men undertaken at the present moment.

From the economic point of view, the industrial cripple and the disabled soldier have so much in common that the sensible way to develop expert ability in reeducation was to undertake at once the training of the crippled men now at hand. In this effort, the possibilities under conditions of industry and employment in an American community would be critically examined, the mistakes in choice of trades or methods of teaching discovered, the reactions of employers recognized and the consequent requirements in public education indicated, and last—but far from least—a staff of capable workers trained and organized.

These considerations have led to the adoption of the institute's policy as represented in its various departmental activities, to be described in the following pages. It is planned that the work of the institute in the vocational rehabilitation of crippled men shall be permanent, for it must be borne in mind that the problem of the industrial cripple is greater, numerically considered, than that of the crippled soldier.

Fig. 1. Red Cross Institute for Crippled and Disabled Men, 311 Fourth Avenue, New York City, the first training school for adult cripples in America.

The institute has no official arrangement with the national authorities relative to the utilization of its facilities in the reconstruction of war cripples. Had it waited for such an agreement, its work would not yet have been under way. But the institute is confident that, in working out the national scheme of reeducation, existing facilities of real value cannot fail to be utilized. The present effort is solely to make our facilities worth offering, at a time when other plans may exist on paper alone.

EDUCATIONAL DEPARTMENT

The first consideration in training a cripple who has been a wage-earner is to put him back as soon as possible upon the pay-roll. Thorough trade training is out of the question because of his economic necessity and his adult attitude toward education as such. The range of possible occupations is limited by his physical disabilities. The ideal must be to train him to become an efficient worker in an industrial process in which his particular handicap will count for the least. In doing this, considerable reliance may be placed upon the marvelous process of Nature

whereby remaining powers are sharpened to compensate for the physical loss sustained.

The first step is, necessarily, an individual study of each cripple who is a candidate for training. Rarely are two men crippled alike. Their educational and industrial experiences have been different. Their tastes and aptitudes vary greatly. All these are elements in the problem. As a general rule, a man should be trained for an occupation in which any knowledge or skill he may have already acquired may be turned to his advantage. This does not mean that a man who has been a misfit in the trade he followed before his injury may not be taught a new one, but economy demands that as little as possible be scrapped in making over the man industrially. A mechanic should ordinarily be trained for a mechanical trade, while a man with commercial tastes should be fitted for a different career.

The candidate for training is interviewed by two or more persons, who assess his physical disability, inquire into his educational acquirements and work history, and endeavor to ascertain his tastes and aptitude. It is the policy of the educational department to have the counsel and advice of members of the staff and others who have been similarly handicapped and who know from experience the physical limitations of that particular form of disablement.

The occupations to be taught disabled men are being selected on various considerations: (1) The suitability of the given occupation for handicapped persons; (2) the length of time required for training; (3) the standard of wages in the industry; (4) the demand for workers and the prospects of employment; (5) the attitude of the trade toward apprentices.

The length of training required is an important factor inasmuch as during that time the man must be non-supporting In the case of some industrial cripples, if they undertake training before their compensation is exhausted, they may be supported from this source. In the case of disabled soldiers, their maintenance will be supplied by the government. But in other cases the institute will have to supply a minimum maintenance to the man during his period of training. In necessitous cases, this is supplied from a special fund in the form of a loan without interest. There is no obligation to repay this loan unless the training improves the man's earning power, in which case he is expected to pay back the loan in installments proportioned to the increase in his wages. It is thought important to make this advance in the form of a loan so as to conserve, to the greatest possible degree, the man's self-respect and to obviate the idea of charity.

It is expected that in some classes work of a productive nature will be done. In such cases, when a man's work proves to be of commercial value, he will receive credit for the work done, either as an offset to his maintenance allowance or in the form of pecuniary profits. When a man completes the course of training, he will either be taken on as a worker and paid wages or sent out to some shop and placed in employment.

Four trades have already been decided upon as subjects of instruction. Equipment has been installed and instruction is under way.

Manufacture of Artificial Limbs.—The manufacture of artificial limbs has seemed an exceptionally suitable trade in which to train crippled men. In point of actual experience, cripples have found it a possible occupation, and in all limb shops a considerable number of physically handicapped men will be found at work. The cripple has, further, a keen appreciation of the requirements for his product and can, therefore, work with a clearer idea of the object in view. The trade is exceptionaly suited to leg cripples, but not to arm cripples, except in occasional instances.

Fig. 2. A view of the artificial limb department, Red Cross Institute for Crippled and Disabled Men.

Another factor contributing to the selection of artificial limb-making as an activity of the institute is that, in dealing with crippled men, the institute will need to provide many of them with artificial limbs and appliances. It seems logical that limbs required for necessitous men should be produced in its own shops and that it should employ cripples exclusively in such manufacture.

There is also room in the artificial limb field for scientific research and experimentation looking toward the improvement of the existing types of artificial limbs and the standardization of material and design. There has been great progress in this field since the opening of hostilities in Europe in 1914. The foreign experience will be studied and the endeavor made to adapt to American advantage some of the recent improvements. The institute is in

correspondence with military hospitals and educational centers abroad which manufacture artificial limbs and which give instruction in this work to crippled soldiers. It is securing specimens of the best limbs and prosthetic appliances actually being used in Europe. All of the specimens and data thus accumulated will be utilized in its own work and made available to others interested in the field. In the direction of experimental work, the institute is working in close cooperation with the office of the Surgeon-General of the United States Army, one division of which is giving especial attention to the designing and fitting of artificial limbs.

The trade is considered a good one in which to train cripples for the reason that the demand for artificial limbs at the present time is unprecedented, and the manufacturers are all seeking a wider supply of skilled labor. This insures prompt employment upon graduation for any competent pupils.

The artificial limb shop is located on the second floor of the institute building and occupies a room about 40 by 50 feet in area. The shop has extensive bench facilities for the hand work of hollowing, shaping, and finishing; gas

Fig. 3. One-armed instructor and his one-armed pupils in mechanical drafting.

forge and anvil; nickel-plating equipment; leather department with special sewing machines; a fitting room where plaster casts of stumps are taken and finished limbs adjusted; lathe equipment for metal and woodworking; a drill press; grinding and polishing heads; a band saw, and a sanding machine.

Oxy-acetylene Welding.—Several considerations have led to the choice of oxy-acetylene cutting and welding as one of the trades to be taught. The large growth in this comparatively new process has resulted in a scarcity of welders and cutters. The prospects are good for the employment of a number of trained men, not only in the ship-building industry and in general repair work, but in many manufacturing processes. Wages are very high, considering the degree of skill required. Cutting can be done by a one-armed man, and welding by a man with one good hand and a makeshift for another capable of holding a light strip of adding metal. Welding can be taught in about three weeks, and cutting in a shorter time.

The equipment is simple, consisting of a number of single, portable units, a brick pit for cutting and steel tables for welding. A pair of heavy shears for cutting the metal strips used in teaching welding and an anvil constitute the only other equipment required.

Mechanical Drafting.—Mechanical drafting offers an attractive occupation for disabled men with certain tastes and capabilities. It can be done without difficulty by men whose powers of locomotion are impaired, but whose arms and hands are normal. Even men with one good hand and a stump of an arm, either with or without a prosthetic device, can do drafting. Men can be trained as tracers in a few weeks and as detailers in a few months.

The present demand for draftsmen is very great and, while conditions may be somewhat changed after the war, in this as in many other occupations there seem to be fair prospects for the employment of trained men at good wages.

The institute is fortunate in securing, as an instructor in mechanical drafting, an engineer who is a one-armed man and who will be peculiarly qualified to help men similarly handicapped to acquire proficiency in this vocation.

Printing.—Instruction in the printing department will be specialized for the present in the operation of the monotype caster. There is a great demand among employing printers for capable caster runners and operators and the present supply is far from adequate.

Runners can be satisfactorily trained in a two months' course, and will be in a position to earn about $16 a week. In a six months' course men can be trained as full-fledged operators. These workers earn between $28 and $30 a week. For the latter work, however, a certain degree of natural ability is prerequisite.

From the viewpoint of the industrial educator, the printing field is a good one for which to train pupils. It stands, in importance, sixth among the industries of the country, and in the New York district ranks third. The employment is not seasonal, and the number of men employed is steadily on the increase.

Incident to the machine instruction, the men will be taught the layout of the type case, elements of hand composition, correction of galleys, and make-up of pages.

Men who have had five years' experience in the printing trade may also be instructed as keyboard operators. This work is practical for any man with two good hands, though one or both legs are missing. The pay of a trained keyboard operator ranges around $30 a week.

[To be continued.]

Federal Legislation for Vocational Rehabilitation of Disabled Persons

On Monday, April 8, Senator Hoke Smith of Georgia introduced a bill providing for the vocational rehabilitation and return to civil employment of disabled persons discharged from the military or naval forces of the United States.

The United States has been in the war a year, and until the present moment no provision for the vocational rehabilitation of her men has been made, though the necessity has been apparent as an inevitable by-product of the war. Although the United States has seemingly been negligent in this regard, the careful studies which it has been possible to make of foreign experience should prevent the United States from making the early blunders of the allied nations and enable her to start at that high mark of efficiency and service which the other countries have attained only after three years of experience.

Senator Hoke Smith's bill was drafted on the basis of the conclusions drawn from foreign experience and is a bit of far-sighted legislation, preparing for future reconstruction.

Upon the Federal Board for Vocational Education is placed the duty and responsibility of providing facilities, teachers' courses of study, prescribing courses, and in cooperation with the Employment Service of the Department of Labor, the placing of these men in gainful occupations.

As a peculiarly fortunate coincidence, Congress had established the Federal Board for Vocational Education on February 23, 1917, under the Smith-Hughes act, whose function it is to provide vocational education for the youth of the country. Three members of the President's cabinet, the Secretaries of Agriculture, Commerce and Labor, as well as the Commissioner of Education and three appointees of the President, representing manufacture and commerce, agriculture, and labor, constitute the members of the board. This board is peculiarly fitted for providing vocational training for the disabled, representing as it does the vital interests concerned in industrial rehabilitation. The most experienced vocational experts in the country have been gathered together on the executive staff The machinery for administering a Federal scheme of vocational education is already set up.

Section 5 of the bill states that the men while in the hospital are under the control of the War or Navy Department, but that these departments shall cooperate with the Federal board in providing training and the training of instructors for this training, so that there may be a continuous process of prevocational and vocational training.

"Sec. 5. That all medical and surgical work or other treatment necessary to give functional and mental restoration to disabled persons prior to their discharge from the military or naval forces of the United States shall be under the control of the War Department and the Navy Department, respectively. Whenever prevocational training is employed as a therapeutic measure by the War Department or Navy Department a plan shall be established between these agencies and the Federal Board for Vocational Education acting in an advisory capacity to insure, in so far as medical requirements permit, a proper process of prevocational training and the proper preparation of instructors for such prevocational training.

"The board shall, in establishing its plans and rules and regulations for vocational training, cooperate with the War Department and the Navy Department in so far as may be necessary to effect a continuous process of prevocational and vocational training."

The men will, moreover, be induced to take training by the economic attraction afforded by the Bureau of War Risk Insurance, which provides the monthly compensation equal to the amount received for his past month of actual service, or the amount to which he would be entitled under the Compensation Act, whichever is the greater. The man's family continue to receive their allowance during the period of his training. The bill also provides that any man disabled in the war and entitled to compensation under the War Risk Insurance Act may take, without charge, a course of vocational reeducation irrespective of the fact that without such course he may be able to earn his own living.

Thus the United States has provided for occupation during the patients' convalescence in the hospital. Not only will the desire for independence and self-support be encouraged thus early in the hospital, but the desire for training will have been created.

The training will be of a practical type and be part of a continuous process of training, as it is to be supervised in the hospitals by the same Federal Board for Vocational Education which will provide all future vocational training after hospital discharge.

The men will, moreover, be adjusted to civilian life during their training in hospital technical school and factory, as the Federal Board for Vocational Education is a civil government body charged with this great task and peculiarly fitted, by the nature of its organization, to train men for the civil demands of industry.

Compulsory Reeducation a Failure—Military Regime Not Adapted to Prepare Men for Return to Civilian Life

As has been said above, the late start which the United States has made in the field of vocational rehabilitation for disabled men in the national service should enable this country to take advantage of the experience of other nations and avoid their blunders.

No more interesting point has developed in the common experience of nations than the failure of the military regime to complete a disabled man's reeducation. At first it was supposed that military discipline could compel a man to take the training which seemed desirable for him, but it was soon discovered that, while military discipline could compel him to take that training, it could not make a good workman out of him. The training of unwilling pupils, under compulsion, was found to be too costly to the government and without benefit either to the government or the individual men themselves. As the futility of military discipline during reeducation became more and more apparent the value of civilian atmosphere in training the men for civilian life became correspondingly more evident.

Germany, although the most highly militarized nation on earth, has never considered reeducation to be the function of the military authorities, nor has she found compulsory training expedient. The general principle has been established that the imperial German Government, through the war department, should be responsible only for the physical care of the disabled soldier, and that all the responsibility for reeducation and return to industry should be assumed by civil agencies or the various states of the empire.

In Austria-Hungary training is compulsory and under military discipline. It is said, however, that in Hungary it has been necessary to enforce the requirement by withdrawing the pensions of those who refuse training. In Austria since 1915 the army administration has had complete responsibility only for medical treatment and for providing artificial limbs. The final treatment and vocational reeducation are carried out in cooperation with the civil authorities.

Belgium was the first of the allied nations to establish reeducation for her disabled. Training is compulsory, but its efficiency is said to be much hampered by this feature. The *Peuple Belge*, under date of July 22, 1917, says that military discipline has rendered the work at Port Villez a failure. "Men who in time of peace were prominent in business have been put to jobs which they would have told their office-boys to perform. Teachers, professors, and university graduates are reported as being compelled to undertake work fit for primary school children. The total amount of useful work is sometimes, therefore, almost negligible. As a school of reeducation, the institution at Port Villez is said to be absolutely deficient in purpose, its fundamental principles giving no guarantee of success." M. Alleman, director of studies in the great Belgian Institute for Disabled Soldiers, is quoted as saying: "Compulsion should never be employed. In certain schools 80 percent of failures have occurred through misapprehension of this principle."

In France vocational rehabilitation has been placed under the minister of labor. Nominally, reeducation is

compulsory; actually, compulsion seems to be recognized as unpractical, and is apparently seldom put into effect.

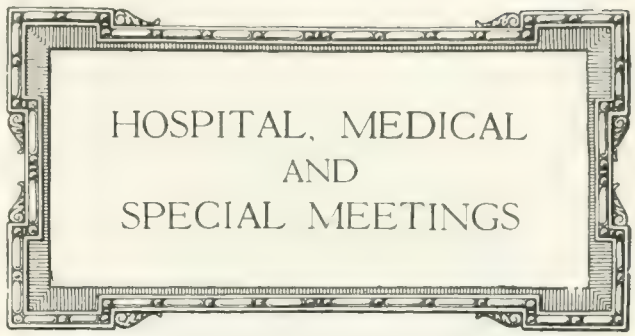
In Italy a civilian board, under the supervision of the minister of the interior, is charged with the entire supervision of reeducation of the disabled. A combination of the compulsory and voluntary system prevails. The law authorizes the retention of the disabled and crippled for a period of at least fifteen days "if possible" in an institution or school for vocational reeducation. If the man refuses training after the expiration of the fifteen-day period, he is given his discharge from the military authorities. The reason for this combination of compulsion and voluntarism is that, while it was admitted that it would be difficult to gain control over the ignorant and usually illiterate Italian peasants without the aid of military discipline, on the other hand, it was felt that men would not make good subjects for training unless they went into it voluntarily.

In Great Britain vocational reeducation is entirely under civilian control and is never compulsory. The ministry of pensions and the ministry of labor in collaboration provide the schemes of training, which are carried out under the supervision of local committees. The patient is interviewed at an early time in regard to his training and an active system of propaganda is designed to attract the men, and in addition special bonuses and allowances are given to induce the men to undergo training. The men are encouraged to enter and complete training by a bonus of five shillings for each week spent in training. If a local committee is satisfied that a disabled man is not taking advantage of the opportunities provided for him, it may withdraw the training and allowance.

The experience of Canada in rehabilitation has been particularly illuminating. While vocational education was carried on to a large extent by the Vocational Branch of the Military Hospitals Commission, under the direction of Mr. T. B. Kidner, a strong advocate for civilian control of the men during reeducation, the line of demarkation between the civil and military authorities was not definite. In February, 1918, the entire Canadian scheme was reorganized by an order-in-council which created a new civilian department entitled "The Department of Soldiers' Civil Reestablishment," to which was given the entire responsibility of providing and administering the vocational reeducation of all men discharged from medical treatment. Thus vocational training was clearly and definitely taken away from the military authorities.

The reason that vocational readjustment cannot be carried on to advantage by military authorities is very simple. It is that you cannot teach a man to run by making him walk in lockstep. Military life, with its obedience to orders, has a tendency to prevent individual thinking and to crush natural initiative. The extent to which the individual is relieved of the burden (or deprived of the privilege) of thinking for himself can scarcely be realized by anyone who has not undergone the experience.

A wounded Canadian officer gave expression to the stress of readjustment to civilian life when he said that, on his discharge from the hospital, he had for the first time in three years had to assume the responsibility of deciding for himself when and where and what to eat. Yet, when these men enter industry, they must enter as civilians; they must be ready to assume responsibility for themselves. If they are to succeed in industry, they must do more than that; they must be ready to take initiative. This they can relearn to do in a technical school or a factory; they cannot learn it under military discipline.



OHIO HOSPITAL ASSOCIATION

Fourth Annual Meeting at Columbus—A War-Time Convention

The program of the Ohio Hospital Association to be held in Columbus, Ohio, May 28, 39, and 30, was received too late for inclusion in the May issue. The convention will be in session by the time this notice appears, but it was felt that the program, which includes many promising papers, should be made a matter of record. A comprehensive report of the meeting, to be prepared by a representative of THE MODERN HOSPITAL, will appear in the July number.

The association, which convenes at the Deshler Hotel, plans to make this a war-time convention, dealing chiefly with problems growing out of the war, and eliminating all unnecessary expense for entertainment, etc.

The meeting will formally open Tuesday, May 28, at 2 p. m. with the address of the president, Mr. F. S. Bunn, superintendent of the Youngstown Hospital, Youngstown. The remainder of the afternoon session will be taken up by a reading of the minutes of the previous meeting by the secretary-treasurer, Dr. E. R. Crew, superintendent of the Miami Valley Hospital, Dayton, and the following papers with their discussion: "The Work of the Woman's Committee, Ohio Branch of the Council of National Defense, in Stimulating Interest in Adequate Nurse Training," by Miss Belle Sherwin, acting chairman; "The Added Responsibility of the Social Service Nurse Brought About by the War," by Miss Stewart, and "The Training of Nursery Maids," by the superintendent of the Jefferson Hospital. Two papers will be read at the evening session, "The Present Status of Hospital Standardization," by Dr. John G. Bowman, director of the American College of Surgeons, and "Compulsory Health Insurance," by Mr. John C. Lapp, director of investigation, Health and Old Age Insurance Commission of Ohio.

President Bunn will preside at the "Round Table Conference on War-Time Economies" Wednesday morning, which will cover the various hospital departments and their economies. The dietetics department will be represented by Miss Sarah Benedict, dietitian of Miami Valley Hospital, and Miss Bertha Beecher of Christ's Hospital, discussing "Mechanical Devices: Serving and Use of Left-Overs, Conservation of Wheat, Meat, and Sugar; Substitutes." E. L. Parish, superintendent of City Hospital, East Liverpool, will speak on "Operating Room Supplies (Dressings, Instruments, Suture Materials, Gauze, Cotton, and Bandages)." The housekeeping problem will be dealt with by Miss Mary A. Jamison, superintendent of Grant Hospital, and Miss C. L. Butterfield, superintendent of Martin's Ferry Hospital. Dr. P. W. Behrens, superintendent Toledo Hospital, and Sister M. Beatrice of Mercy Hospital, Canton, will talk on the "Laundry and Linen Room." Mr. Frank E. Chapman, superintendent of Mount Sinai Hospital, Cleveland, will represent the engineering

and mechanical department. The subject of "The Necessity of Substitutions, Economy in Dispensing, Limiting the Amount of Supplies and Standardization of Methods in the Pharmacy" will be taken up by R. W. Yengling, Ph. C.,

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pharmacist, Youngstown Hospital. The afternoon session will be devoted to the papers on "Present Day Medical Problems of the State," by Dr. A. C. Freeman, commis-

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sioner of health; "The Relation of the Industrial Commission to the Hospital of the State," by Dr. Fletcher of the State Industrial Commission, and "Mental Hygiene," by Dr. A. C. Baber, superintendent of Dayton State Hospital. A banquet will be held at the Hotel Deshler in the evening, to be followed by an address by Richard P. Borden, chairman of the Hospital Committee of the American Hospital Association, "What Service Can the Civil Hospital Render to the Returned Soldier," and an address on "The Duty and Opportunity of Hospitals in the Rehabilitation of the Handicapped Soldier," to be given by a medical officer of the United States Army.

The convention will close Thursday morning with the report of the committees, the report of the special committee appointed by Governor Cox to make a survey of the hospitals of the state, which is to be delivered by Senator Howell Wright, and the election of officers.

The Third Annual Convention of the Catholic Hospital Association

As announced in our news columns last month, the Third Annual Convention of the Catholic Hospital Association will be held at Chicago, June 18 to 20, in the hall of St. Francis Xavier's Academy, 4928 Cottage Grove Ave.

The subject of the convention will be the standardization of hospitals and the hospital's work in relation to the present world war.

Papers will be read and discussed by some of the leading hospital authorities of the country.

An added feature of this year's convention will be conferences of the executive authorities and heads of the various hospital departments.

The official organization of the convention will be composed of the active and associate members of the association for the year 1917-1918. Representatives of all hospitals of the United States and Canada, and other individuals who are interested in scientific medical work, are, however, cordially invited to the meetings.

The coming convention promises to be by far the most important in the history of the association. The needs that have been emphasized by the present war, and the great movement that is now being carried on by the American College of Surgeons for the standardization of all hospitals, should cause the Catholic hospitals of the United States and Canada to assemble at the 1918 convention in such numbers as to insure an epoch-making event.

Already about one-third the Catholic hospitals of the country have become members of the association in good standing for the year 1917-1918. The remaining hospitals are earnestly urged to join the organization on or before the date of the convention. Such an active interest will manifest to the country the true spirit of the Catholic hospitals in behalf of scientific medical progress.

Dues: active membership (hospitals), $5; associate membership (individual), $2.

Conference of Ohio Tuberculosis Hospital Superintendents

A conference of Ohio Tuberculosis Hospital Superintendents was held in Columbus on March 14. It was attended by 18 representatives. Officers elected for the ensuing year were: chairman, Dr. S. A. Douglass, Mt. Vernon; vice-chairman, Mrs. Aloysia Lawin, Columbus; secretary, H. J. Southmayd, Columbus. Meetings of the conference are to be held at intervals of two months.

Mississippi Valley Conference on Tuberculosis to Meet in Ohio

At a meeting of the Central Council of the Mississippi Valley Conference on Tuberculosis, held in Chicago March 13, it was decided to make Columbus the meeting place for this year. The meeting will be held during the latter part of September. The Columbus Society for the Study and Cure of Tuberculosis and the Ohio Society will cooperate in all local arrangements. The officers of the Conference for this year are: president, Dr. Alfred Henry, Indianapolis; vice-president, Dr. W. J. Marcley, Minneapolis; and secretary-treasurer, R. G. Paterson, Columbus.

LETTERS TO THE EDITOR

The Red Cross Hospitals of Japan

To the Editor of THE MODERN HOSPITAL:

I take great pleasure to send you a copy of album of our Red Cross Hospital.

The hospital is situated in the suburb of Tokyo, Shimoshibuya, commanding beautiful views all around it, to say nothing of fresh air and plenty light enjoyed by patients all the time. It was established in November, 1886. The area of the whole ground is a little less than 37 acres, on which comparatively low buildings stand, covering over 4 acres, containing 320 beds in 114 wards inclusive of private patients' rooms. All the buildings are entirely in one story. The hospital being under Her Majesty's patronage, an allowance is made by her every year. It is usual that when she visits the hospital she gives to free patients gowns.

Fig. 2. Dr. Seiyu Hirai, surgeon-general and president of the Central Hospital of the Red Cross Society of Japan.

This is what we call "The Central Red Cross Hospital."

Fig. 1. Plan of the grounds and buildings of the Central Hospital of the Red Cross Society of Japan. The area of the hospital grounds is 2,394,000 square feet; that of the buildings, 198,720 square feet. There are 320 beds distributed among 114 wards, and housed in sixteen buildings.

Beside this, we have maintained branch Red Cross hospitals over Chosen, Manchuria, and Japan, numbering in all fifteen. These institutions maintain 1,818 beds.

Preparedness in time of war as well as in time of natural calamities such as flood, fire, earthquake, etc., necessitates us to train nurses in all these hospitals. Nurses to be admitted to the training schools within the hospitals must have graduated from high schools and are required to take three years' courses theoretically and practically. Moral instructions are strictly given to them. In the recitation room in which probationers are given lectures upon various subjects, there Florence Nightingale's portrait is hung up on the wall. We have now 558 trained nurses and 1,376 attendants (male). All patients except private ones are admitted free of charge. In time of war, our Red Cross hospitals wholly or partly should take in the sick and wounded. So, in the late two wars with China and Russia, our Central Red Cross Hospital was made one of the military reserve hospitals and treated a great number of those war victims.

Fig. 3. Central Hospital of the Red Cross Society of Japan.

The president of the Central Red Cross Hospital and the vice-president are respectively, Dr. Seiyu Hirai, surgeon-general, and Dr. Kichiya Saigo, surgeon major-general.

BARON T. ISHIGURO.

Medical Progress in Japan

To the Editor of THE MODERN HOSPITAL:

As you have conjectured, the progress of medical science in Japan in the last ten years has been wonderful. Japan has made not a few contributions to the medical world of Europe and America. Among others, I may mention the study of the causes and treatment of malaria, diphtheria, "tsutsugamushi" disease, and Weil's disease.

But I regret to say that even now we find there some prevalence of typhoid fever, cholera, plague, etc. It is, I suppose, because of the deficiency of a system of water supply and sewerage such as we find in this country (America).

As for tuberculosis, we have built many sanatoriums in different parts of the country, and the patients are strictly isolated. Each physician's group is striving unitedly to contribute expenses and, even in the hot summer time, to spare time for the purpose of giving lectures, dramas, and demonstrations to the people. This is the way they are striving for prevention and relief of the disease, as a consequence, the number of the patients is decreasing, more or less. This fact, I think, is fortunate, not only for Japan, but also for the sake of humanity.

Syphilis, which even in small degree of infection greatly decreases national power, is becoming less through the efforts of the government to repress the private prostitute, through the propaganda of secondary education, and through the progress of self-government. This is clearly seen from the statistics of physical examination of young men taken yearly for military service. I feel that the danger of overlooking the private prostitute is much more formidable than the establishment of public prostitution. At least, since my arrival in this country, I have found that among the causes of insanity, sad to say, must be reckoned syphilis, which produces a considerable number of cases. That this is a big problem which civilized nations of the world are trying to prevent with all their might is a fact which has been known for a long, long time. The discovery of salvarsan might be said to be almost a gospel to the world.

The Cancer Investigation Society was organized a long time ago for the purpose of prevention, treatment, and causal investigation of the disease. Large contributions of money are made to it and prizes are offered for the study.

Serum treatment and physical treatment have made sudden growth in recent years, and are now competing for recognition with the ordinary methods of medical treatment.

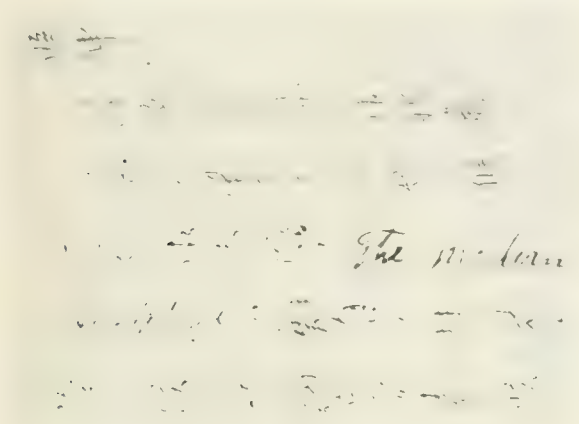
In contrast to the tendency of our medical world, as above stated, the backward elements are the treatment of juvenile offenders, reform education, educational pathology, psychiatry, and others. Although the methods and organizations which deal with these subjects are growing to a certain extent, through popular interest, we do not yet find many noteworthy organizations such as are found here in this country, owing to the weakness of charitable organizations in Japan. Our government took pity on the dependent population, and a couple of years ago officials were appointed for the purpose of the establishment of a national reformatory. They are eager to get results from it. The local charity insane hospital, the only one which we have of the kind, has had an increase of applicants year by year. The rooms and grounds became more and more inadequate. So there is a plan to establish a new one outside of the city with a fund of several million dollars.

Running parallel to the foregoing, different localities have felt the pressing need for the care and treatment of insanity, the most deplorable, pitiable, and formidable of all diseases. There is great eagerness, to establish sanatoriums for the insane. According to the latest statistics of the world, we see that there is one insane person to every two hundred and seventy or so of healthy people. It is indeed an awful social phenomenon to think that this disease has a tendency to increase yearly with the progress of civilization. When we think of the fact that the source

of a strong nation lies in the health of the population in both soul and body, I think it is a matter of more importance than anything else, to any country and at any time, to eliminate the cause of danger and to let the new generation flourish in healthy condition. This is the significance of psychiatry, the special line of our study.

Medical science in your country is making progress so as to build up a new school. I have heard that psychiatry, in particular, has made wonderful progress. For that reason, I have come over to this country from far, far away.

Your paper is a pioneer in the medical science of the world. With the admirable intention of guiding the physicians, you are trying to collect the studies and opinions



A portion of the original text of Dr. Matsumoto's letter.

of scholars from all the world, I understand. Thus, excited by sympathy, I answer your letter, with a statement of what I have felt.

I am a visitor far, far away from my home, and, being absorbed in the study of special line of learning, I have not material enough to write anything of great value. Moreover, I greatly regret my inability to express my ideas in your language, which I am very fond of writing. So in case I become accustomed to your language, I hope I may write in it from my own experience.

Asking your pardon for my poor writing, and with full regards, I am,

DR. T. MATSUMOTO.

P. S. You are at liberty to publish the contents of this letter in your journal. THE MODERN HOSPITAL which you had given to me some time ago has been read through. I thank you for it.

Hospitals of Peoria Hold a Get-Together Meeting

To the Editor of THE MODERN HOSPITAL:

The medical staffs of the three hospitals of Peoria held a joint meeting at St. Francis Hospital, March 18. The purpose of this meeting was to unify the work of the institution and to promote efficiency.

This was the first meeting of its kind ever held in this city or any other that we know of. We have found that it has a tendency to establish friendly competition rather than any animosity. We have also found that the success of staff meetings is greatly increased, particularly from the standpoint of attendance, when the meeting is held in connection with the luncheon. The joint meeting referred to above resulted (1) in the visiting members getting better acquainted with our own institution and feeling the friendly nature which we entertain toward them, and (2) in the establishment of a standing committee consisting of two members of each staff, who are to meet once a month and to make their report to their respective staffs accordingly.

In this way we endeavor to bring about results such as raising the standard of the work done at the hospital; improving the lectureship course to the nurses; increasing our mutual understanding as to the practitioners who give good service and those who do not; and also the elimination of unethical or improperly licensed practitioners from practicing in the hospital.

A. J. FOERTER, M.D.,
President St. Francis Hospital Staff, Peoria, Ill.

Employment for Industrial Cripples

To the Editor of THE MODERN HOSPITAL:

The Red Cross Institute, 311 Fourth Avenue, New York, has been carrying on employment work for industrial cripples during the last five months. A great many of the men who come to the bureau for work have been incapacitated for doing work which requires going back and forth each day on the cars. Many of these men are perfectly capable of work and would be suitable for a position in an institution. Some of them could be information clerks, others could do work in the dispensary and there are a number of other clerical positions that they could fill.

The institute has on its list at present a number of men who are anxious for positions in hospitals and we would be glad to get in touch with any hospital which could use any of these men.

GERTRUDE R. STEIN,
Employment Secretary American Red Cross Institute for Crippled and Disabled Men.

[NOTE.—The work of the American Red Cross Institute for Crippled and Disabled Men is described in this issue by the director, Mr. Douglas C. McMurtrie, in the department, "Industrial Rehabilitation of Disabled Soldiers and Sailors."—EDITORS.]

A True Chum

Speaking at the Kennington Theater on Saturday, Lord Denbigh told a nice little story, says the *British Journal of Nursing*. He said that when walking through the House of Commons a few days ago he saw two wounded Australian privates. They appeared to be dwarfs, but on drawing closer he noticed that their legs had been shattered below the knee.

He said to one of them, "Haven't you been fitted with artificial legs yet?" The elder of the two replied: "Yes, I have, and I am going along with them all right, but my pal has not, and as he is a bit shy about going out alone with his stumps, I left my legs behind."

Isn't that just like a true chum?

The Warner Sugar Refining Company, New York, have lately donated to the Flower Hospital a building large enough to accommodate 350 beds, which, after being furnished and equipped by the company, at a cost of $150,000, will be used as an annex to the hospital. This is the first gift in the campaign recently started by the Mayors' Committee on National Defense, following the request of the government that 20,000 beds, with equipment, in the New York City hospitals be put in readiness for the use of soldiers, seamen, and others in the service of the United States who may be invalided home.

QUERIES AND ANSWERS

Soap and Caustic in the Hospital Laundry

To the Editor of THE MODERN HOSPITAL:

We are in doubt as to the proper mixture of soap and caustic for use in our hospital laundry. Can you tell us what formula other hospitals use?

A HOSPITAL OF THE MIDDLE WEST.

One of the large Chicago hospitals uses a mixture of 25 pounds of soap to 100 gallons of water and 3 pounds of caustic as a routine procedure. At present caustic is not being used, but 10 pounds of soda are substituted for the 3 pounds of caustic to the same quantity of soap and water mentioned above. Hotels are using trisodium phosphate in the proportions of 3 pounds bleach to 25 pounds of soap.

Should Hospitals Be Exempt from Taxation?

To the Editor of THE MODERN HOSPITAL:

Knowing your interest in all questions pertaining to hospitals, I write to ask you the status relative to taxation of hospitals throughout the country.

Some four years ago I went before our county court, also our city council, and persuaded these bodies to remit the taxes against our hospital, with several others, and take these properties off the tax list. Last year we assumed the commission form of city government, and the commission, needing more money, is seeking to put the hospital properties back on the tax list.

What I desire to know is, are the hospitals throughout the country taxed? If not, why not? What does it take to constitute a so-called "charity hospital"?

Our board of equalization meets about the first of April. We will go before the said board and endeavor to persuade it that we should be exempt from taxation.

HOSPITAL ASSOCIATION PRESIDENT.

In our own state, Illinois, hospitals that do charity work are not taxed and it requires 10 per cent of their total treatment of patients to be free in order to enable the hospital to come under this provision.

Hospitals throughout the country, and almost universally, are getting the benefit of exemption from taxation when they do a certain amount of charity work; unfortunately, this clause is a good deal abused and a good many hospitals claim exemption whose only charity work consists of uncollected bills. But the rule is a just one, nevertheless; if a hospital is living up to modern demands, it is the community health center and its resources are expended for the benefit of the public.

We are trying everywhere in the country to make our hospitals better, to raise our standards and to give a service to the sick more nearly in keeping with the times of modern medicine. Already costs of hospital administration are mounting to almost prohibitive heights. Hospitals are no longer boarding houses for the sick. They must furnish very expensive aids to the physician for diagnosis and for the treatment of disease; the cost of equipment is increasing and the demands for more complicated equipment are persistent.

If a community expects that its hospitals shall measure up to modern standards, the law-making bodies of the community must do their share to make it as easy for the hospitals as they possibly can.

If your commission form of government chooses to tax your hospitals, one of two things must happen: either the quality of service to the sick of the community must be lowered or the hospitals must necessarily be more exacting in charging patients for their care, and this exaction falls on those least able to bear it; in other words, the poor will have to pay when, under a system by which hospitals are exempted from taxation, those who are able to pay general taxes will have to do their part in taking care of the sick poor.

So far as the hospitals are concerned, the problem is as broad as it is long; if they are to keep their doors open they must have money, and unless they get it by exemption from taxation and by funds provided by the state, county or city for the care of the indigent sick, the hospitals themselves must collect the money from patients, rich and poor alike.

If the matter is presented to your commissioners in a broad way they will no doubt meet you more than half way.

The Hospital Laboratory Self-Supporting

To the Editor of THE MODERN HOSPITAL:

In order to bring our hospital up to the standard requirements, we find that we must install a pathological laboratory. The equipment will cost more than we can afford to pay out, and the salary of a pathologist will be a great burden to us, as it is already a question of our keeping the institution on a self-supporting basis, owing to the unusual cost of labor and food and supplies.

Is it fair to ask the small hospitals to meet this requirement in these strenuous times?

SECRETARY OF A BOARD OF TRUSTEES.

Beginning by answering the end of your question first: It certainly is fair to you and to every other hospital to insist that you have a pathological laboratory. A hospital has no right to admit patients, for either medical or surgical treatment, unless it has the means at hand to make a diagnosis of the conditions treated. Further than that, no hospital takes the proper responsibility for the care of its patients, if it admits to practice any physician who attempts to treat a patient without a proper and thorough diagnosis, and a proper and thorough diagnosis cannot be made without laboratory facilities.

As to your first reason for not wishing to install a laboratory, even small hospitals in small communities have proved that laboratories can be secured and made self-supporting if the hospital and the medical men who bring patients there understand the need and are willing to put enough energy into getting the service.

Cities and county medical societies frequently undertake the expense of laboratory equipment, because their progressive men know that they cannot do good work without it, and after a laboratory is once equipped, the salary of the technician and the cost of supplies and added facilities are easily met by the fees received.

Laboratory facilities will increase the average census of your hospital, and if you do not have them, patients in your city and the surrounding towns will go elsewhere to get proper diagnosis.

The laundry building of the Dayton State Hospital was recently entirely destroyed by fire, which is supposed to have started from spontaneous combustion in the drying room. The State Board of Administration is preparing to have the building replaced immediately, at an approximate cost of $40,000.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

The Tung Wah Hospital, Hong Kong: Some Impressions. E. M. Browne. St. Bartholomew's Hosp. Jour., London, 1918, XXV, No. 1.

This large hospital, endowed and maintained by the influential Chinese family of Tung Wah, is divided into two large sections. In one the treatment is carried out on modern Western lines, in the other the patients are treated by the old Chinese methods. It is left to each patient to select the division in which he wishes to be treated. The medical wards offer a great contrast to an American or European hospital. A Chinaman objects strongly to a bed in the Western sense. Two trestles, some planks across them, and a good thick quilt are quite sufficient for him. During the day the patient is rarely seen lying in his bed. He is always to be found squatting on one corner of the bed with all the bedding tightly wrapped around him. There are no female nurses, their work being carried out by trained Chinese ward "boys." Beriberi and tuberculosis are the most common diseases. The native physicians of the Chinese division pass some kind of an examination before the hospital authorities, but the ordinary Chinese doctor requires nothing more than a book of prescriptions and an impressive manner. Among the substances used for internal medication may be found such things as dried snakes, crabs' eyes, centipedes, seahorses, cockroaches, young lizards, etc. It should be mentioned that the number of patients selecting the division carried on on Western lines is steadily increasing.

Exhibition of the Work of the Wounded Soldiers at the Ospedale Maggiore. Osp. Maggiore, Milan, 1918, VI, No. 1.

Recently an exhibition was held of the objects made by the wounded and crippled soldiers treated at the great Milan hospital. The exhibit showed a great variety, was most artistically arranged, and was visited by large crowds. The beautifully colored ceramic articles and the division assigned to the products of the blind soldiers attracted special attention. All the objects were sold out in a short time and numerous orders for new ones were given. All the soldiers visited the exhibit and were immensely proud of their accomplishment and of the appreciation they received among the public. The hospital now intends to extend this work and to establish new courses of instruction in various lines.

Assistance of Legitimate Babies of Poor Mothers in the City of Padua. F. Valtorta, Nipiologia, Naples, 1917-18, III, No. 3.

For several years past the city of Padua has carried on a dispensary for the purpose of assisting poor mothers with legitimate children. The dispensary consists of a waiting room, a consultation room, a room for the medical inspector, and a large lecture hall for instructing mothers in the care of their babies. Poor mothers are provided with food, and those that for any reason are unable to feed their children at the breast are supplied with artificial food by the dispensary. During the past year 450 mothers have been given assistance.

The "Star and Garter," Richmond; a Permanent Home for Paralyzed and Disabled Sailors and Soldiers. Sir Frederick Treves. Am. Jour. Care Cripples, N. Y., 1917-18, V. No. 1.

Generous citizens of London bought the "Star and Garter" Hotel on Richmond Hill and presented it to the queen. Her majesty, ever anxious to help the sick and wounded soldiers, at once turned this important building over to the British Red Cross Society, to be devoted to the care of totally disabled soldiers and sailors. The hotel consists of the main building and a large annex. The latter has now been converted into a home for sixty-five paralyzed men. The staff is housed under the one roof, and the home is made complete in itself. The bedsteads are of a special type, and can readily be wheeled about by a nurse.

As the main building was found to be unsuited for a hospital and the costs of conversion would have been very great, it was decided to pull it down and erect an entirely new building in its place. This work is carried out with money collected by the women of England. The hospital will be dedicated, for all time, to the disabled, crippled, and helpless soldiers and sailors. A portion will be devoted to the care of bedridden men, but the larger part of the building will receive men who are no longer able to work or to help themselves. The grounds form a beautiful garden, and the new building will have a large open loggia, where the patients' beds and chairs can be wheeled, and where they will have a magnificent view over the Thames Valley and the glorious wooded country bounded by the Surrey Hills and the Great Park of Windsor.

Transportation of Wounded by Aeroplane. Osp. Maggiore, Milan, 1918, VI, No. 1.

Italy is making arrangements to use the aeroplane for the transportation of wounded soldiers. It is expected that the powerful Caproni plane can carry from ten to twelve stretchers, and that a machine can make two trips a day between the Piave front and the city of Milan. Ten of these aeroplanes could thus transport from 200 to 240 wounded a day. It is expected that many wounded men who can only be operated with the surgical facilities of a great hospital will thus be saved.

Treatment and Training of the Disabled at Queen Mary's Convalescent Auxiliary Hospital, Roehampton. D. B. Myers, Am. Jour. Care Cripples, N. Y., 1917-18, V, No. 1.

This hospital was established toward the close of 1915 for the purpose of fitting men who have lost a limb in the war with the latest and most perfect artificial appliances. Lady Wantage took a prominent part in the establishment of this institution. The trades taught in the various workshops include basket-making, light leather work, electrical work, wood-working, motor mechanism and driving, metal turning and fitting, commercial instruction, poultry farming, etc. Every patient is interviewed the day after

he enters the hospital, his industrial history is recorded and his wishes as to the future ascertained. As 40 percent of the men return to their former employers and a further 35 percent, who desire employment near their homes, come automatically under the care of the local committee, it follows that only about 25 percent remain to undergo training at Roehampton. The handling of these men requires great tact. They are sensitive to a degree and are easily discouraged. On the other hand, they respond readily to kindness and to sympathy. It often depends on how a man is handled whether he is made or marred for life. Up to the end of last May 7,230 men have been discharged from the hospital, fitted with their artificial limbs, and of these 6,372 have been dealt with for employment.

Farm Colonies in the Treatment of Tuberculosis. Brit. Med. Jour., London, 1918, I, Feb. 2.

Experience at the Royal Victoria Hospital, Edinburg, has shown that in a considerable number of cases complete arrest of tuberculosis could not be attained within the ordinary time limit of sanatorium residence. It was found that within four or five years some 50 percent of patients apparently cured had relapsed. The average duration of sanatorium treatment was six months. If under the present insurance act the treatment is reduced to three months the results will be much worse. Even if the duration of sanatorium treatment is not reduced, it would be desirable in from 20 to 25 percent of the cases to continue the treatment in a farm colony. For a certain number of patients the only hopeful outlook after cure is to continue an outdoor life. The work of the Royal Victoria Hospital Farm Colony, established in 1910, has been very satisfactory in spite of the disturbances of the war. Almost all the patients were kept in residence for twelve months and discharged with the disease arrested and with a first-rate working capacity. And these were all cases in which sanatorium treatment even exceeding six months failed to secure decisive results, they were typical cases which would have gone to swell the roll of sanatorium failures.

Hospitals and Vocational Training. Richard P. Borden, Secretary War Service Committee, American Hospital Association. Boston Med. and Surg. Jour., 1918, CLXXVIII, No. 19.

Mr. Borden sums up his conclusions on this subject as follows:

"To insure permanency in vocational training, civilian hospitals should be utilized.

"The need for such training will continue after discharge from military service.

"Military hospitals should be located where there are industrial facilities.

"The training should be in the line of former occupation, therefore men should be returned to hospitals near their homes.

"There will be need of recurrent treatment, so the hospital should continue within reach of the patient.

"The 'general reconstruction' hospital should be permanent.

"There should not be unnecessary duplication for the Army and Navy.

"The money spent in establishing vocational schools should not be wasted. They should be continued for industrial needs, and thus be perpetuated for possible future military service; like universal military training, an element of preparedness.

"Civilian hospitals used for military purposes are available for discharged men under the War Risk Insurance Bureau and the U. S. Workmen's Compensation Bureau. The vocational schools established in such would be available for triple use.

"Economy and efficiency are satisfied.

"Civilian hospitals can be made to meet capacity requirements.

"Military discipline can be preserved.

"Hospitals are ready to cooperate in vocational training."

BOOK REVIEWS

New and Nonofficial Remedies, 1918. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1918. Cloth, pp. 452. American Medical Association, Chicago, 1918, $1.

This book, too little known in many hospitals, should stand next to the pharmacopoeia on the pharmacy bookshelf. In it are annually listed and described the articles accepted by the Council on Pharmacy and Chemistry of the American Medical Association. An appendix, giving "References to Proprietary and Unofficial Articles Not Described in N. N. R.," makes the volume something like an encyclopedia of unofficial articles, the worthy ones being described in the text and the unworthy being listed in the Index Expurgatorius at the end, which, however, is not exhaustive.

The American Illustrated Medical Dictionary. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc., with the Pronunciation, Derivation, and Definition. New (ninth) edition revised and enlarged. By W. A. Newman Dorland, A.M., M.D., F.A.C.S. Flexible leather, pp. 1179, with 331 illustrations, 119 in colors. $5 net. W. B. Saunders Company, Philadelphia, 1917.

Properly, a dictionary should never be reviewed until it has been used a year. Of the American Medical Dictionary, which has been in use for a number of years, it is safe to say that it is one of the most convenient and complete medical dictionaries in existence. For the ninth edition the publishers claim the inclusion of "hundreds of new words not defined in any other medical dictionary now on the market—bar none." Valuable features in this, as in preceding editions, are the indication of capitalization, pronunciation, and etymology.

BOOKS RECEIVED FOR REVIEW

Books received are acknowledged in this department, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Lessons from the Enemy—How Germany Cares for Her War Disabled. Medical War Manual No. 5, Authorized by the Secretary of War and under the Supervision of the Surgeon-General and the Council of National Defense. By John R. McDill, M. D., F. A. C. S., Major, Medical Reserve Corps, U. S. Army. Flexible leather, pp. 262, illustrated, $1.50. Lea and Febiger, Philadelphia, 1918.

Laboratory Methods of the United States Army. Medical War Manual No. 6. Authorized by the Secretary of War and under the Supervision of the Surgeon-General and the Council of National Defense. Compiled by the Division of Infectious Diseases and Laboratories, Office of the Surgeon-General, War Department. Flexible leather, pp. 256, illustrated, $1.50. Lea and Febiger, Philadelphia, 1918.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Universal Water Power Suction Pump

Every laboratory worker, as well as many nose and throat specialists, are familiar with the Chapman filter pump, the latter using them in connection with the Brawley aspirator, as well as for removing blood and mucus during tonsil and adenoid operations, and the surgeons for the same purpose during abdominal or vaginal operations. For this purpose, however, the filter pump really never has produced sufficient vacuum. Gray's Universal suction pump (Fig. 1), which is attached to a faucet and used in connection with one of the well-known Bier's hyperemia apparatus, is an extraordinarily well-designed

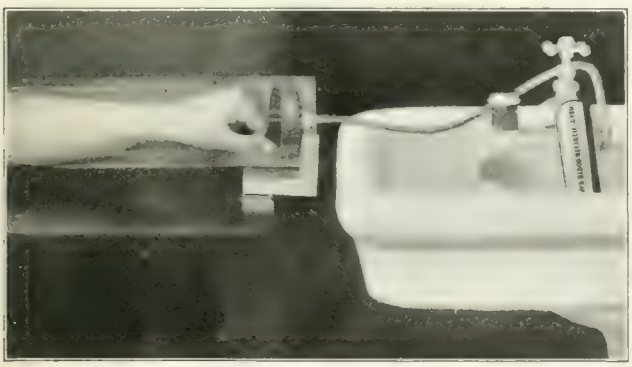


Fig. 1. Gray's universal water power suction pump.

piece of work. This pump has four separate compartments and two central pipes, yet it is cast in a single piece of aluminum.

The manner of fastening the pump to any type or shape of faucet is also unique. A specially constructed interlocking unconvertible faucet washer is used which has four concealed ribs, as well as a peculiarly shaped cross-rib, all of which prevent the rubber connection from turning inside out or slipping off a round or flat faucet after being pushed up as far as it will go. The only care necessary is to see that the faucet is free from grease, soap, or oil when the pump is being attached. When attached to a faucet where there is a water pressure of 25 pounds, the apparatus will produce a vacuum of from 28 to 29 pounds, which is more than is ever needed for any laboratory, surgical, or medical purpose. There is an arrangement by means of which this vacuum can be controlled to a minimum, or used intermittently, as may be desirable in certain massage or cupping operations. On account of its peculiar construction it is not even necessary to use a bottle between the pump and suction tube, as there is sufficient vacuum direct from the pump to suck in pus or blood clots and pass them on through the suction piece and tubing through the pump into the catch-basin

Considering the extreme usefulness of this device, the size of which is only 5 inches long and 1½ inches in diameter, the price is very reasonable. The manufacturers

Fig. 2. Cupping, suction, and hyperemia apparatus is for use in connection with Gray's universal suction pump.

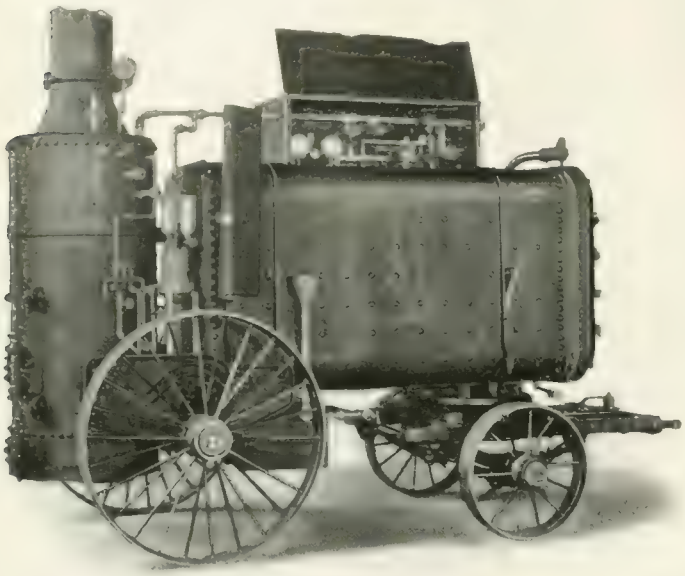
are also prepared to furnish, in addition to the different types of suction tubes, all the various sizes and shapes of cupping and hyperemia apparatus, from the smallest for a furuncle to the largest for the trunk, as well as those needed for treatment of hand and arm. Some of these are shown in Fig. 2.

Portable Steam and Formaldehyde Disinfector

This new type of portable disinfector is a modification and rearrangement of the "American" Kinyoun-Francis steam and formaldehyde disinfector so well known to many of the hospitals throughout the country. The idea of a portable disinfector is not at all new, for it has been used in various forms since 1893, when the first Kinyoun-Francis model was designed and built for the United States Marine Hospital service, as it was then known. Later a number were put into service by the United Fruit Company for mobile disinfecting plants in connection with their large shipping interests. The health departments of the cities of Philadelphia and Norfolk made use of similar apparatus for a number of years. As a portable disinfecting plant it was most complete, meeting the utmost requirements, but the considerable weight and size of the arrangement certainly placed a limit on its field of usefulness. Frequently four heavy horses were required to move the apparatus even on paved city streets. The weight was as much as 12,000 pounds, and the overall length 16 to 17 feet.

A need for a practical mobile disinfector for the present emergency was immediately apparent, but it must be smaller and lighter than anything yet devised. With the earlier models of the "American" Kinyoun-Francis types

as the basis for further development, the present highly improved type is the result. To F. M. Hartsock, colonel Medical Corps, U. S. army, belongs the credit for the model now used so extensively by our government and which now becomes the object of so much national interest. The illustration shows a complete and compact disinfecting plant, with every facility to be found in a modern stationary plant. The disinfector is the high-pressure, jacketed, vacuum type, with formaldehyde gas attachment. The chamber is 30 inches wide, 42 inches high, and 80 inches



long inside. A high-pressure steam boiler, also storage compartments for fuel and water, are provided, and the whole arrangement mounted on a steel truck with roller-bearing wheels. The weight has been reduced to close to 8,000 pounds, and the length to about 12 feet, thereby accomplishing most satisfactorily the object sought—light weight and small displacement, so necessary in considering the shipment of hundreds to the fighting fronts. Mobility is now comparatively easy.

Crepe Paper Bandages

The old saying that "necessity is the mother of invention" needs no proof at this late date, and one of the newest applications of the foregoing adage is the appear-

Crepe Paper Bandages.

ance of the crepe paper bandage, a product of the Dennison Manufacturing Company. The present high price and scarcity of gauze is due, as we all know, to two conditions, the ever-increasing demand both at home and across the water, coupled with the shortage and consequent raise in price of raw cotton.

The paper bandage is made from an extra heavy 11-pound crepe stock, is 15 yards in length, and comes in the standard widths used in surgery. An improvement is seen in the increased yardage, eliminating as it does, the handling of several times as many small rolls.

The medical services of our army and navy have adopted the crepe paper bandages, and some of the civilian surgeons who have tried them out, believe that in time crepe paper bandages may replace gauze bandages in hospitals to a greater or less extent.

Adjustable Walking Chair

Recently there was illustrated and described in these columns an improved adjustable crutch. The apparatus here described will make it possible to aid those who temporarily are deprived of the full use of their legs to get about without too great exertion, which will help them to regain the full use of their lower extremities and which will, if necessary, strengthen the muscles of the arms.

McGrath's adjustable walking chair.

As will be seen from the illustration, the weight of the body can rest on the padded spring seat, or on the shoulder supports, and as little or as much weight can be put on the legs as may be desired in each individual case. The padded shoulder supports, hand supports, and the spring seat can be quickly adjusted to fit a man or woman of any size. The chair is not heavy to move about or to carry up and down stairs, is very easy running, and the swivel rear wheels enable the user to guide it at will. The apparatus is equally adapted for indoor or outdoor use. It is white enameled, with nickel trimmings, and built strong enough to stand the hardest usage. For hospitals, sanatoriums, homes, or in fact wherever there is a person who is suffering from paralysis, shell shock, locomotor ataxia, etc., and who does not have perfect control of his or her legs, the McGrath adjustable walking chair is said to be very helpful.

HOSPITAL AND NURSING PLANS OF THE COUNCIL OF NATIONAL DEFENSE

Some of the Activities and Interests of the General Medical Board of the Council of National Defense, April, 1917-April, 1918

The following statement is extracted from a summary, authorized by the Medical Section of the Council of National Defense, of the report of Dr. Franklin Martin, member of the Advisory Commission and chairman of the General Medical Board of the Council of National Defense, with mention of some of the leading interests and activities of the year of the board and of the medical section, presented at the annual meeting of the General Medical Board, May 5, 1918.

The board has:

Recommended to general hospitals reorganization of staffs, in order to release as many as possible for army and navy service, and urged each person whose services could be spared to apply for appointment.

Classified hospitals exhaustively as to size, convenience to transportation, equipment, and all other details.

Investigated subject of portable hospitals, and recommended purchase of a limited number by the Surgeon General of the Army.

Classified and tabulated for use of Surgeon General's office data as to private houses and large buildings offered for use as military hospitals.

Recommended to War and Navy Departments that zones around camps and cantonments be placed under military control in order to protect troops from venereal infections. Encouraged organization of Fosdick Commissions or Training Camp Activities.

Appointed subcommittees on drug addictions, alcoholic control, public health nursing, tuberculosis, and health statistics, which committees have assembled information and recommended definite sanitary measures for guidance of army, navy, Public Health Service, American Red Cross, and civil health agencies.

Work of subcommittee on venereal diseases has expanded, and it has become the Committee for Civilian Cooperation in Combating Venereal Diseases, a general committee of the General Medical Board.

Been instrumental in increasing by 20 percent number of pupil nurses in training schools, by means of correspondence with college and school graduates, deans of women's colleges, school principals, and board of education secretaries.

Distributed about one hundred thousand bulletins and leaflets for information of prospective students.

Made nation-wide survey of country's nursing resources, and urged heads of training schools and hospitals to increase their facilities.

Published series of twelve articles on nursing in newspapers throughout the country.

Been instrumental in having nurses included in War Risk Insurance Law.

Secured evidence of need for military rank for nurses, and secured indorsements of this movement from many persons.

Conducted campaign for increasing number of candidates for nursing education.

Cooperated in preparing details of preparatory nursing course for college graduates at Vassar College.

Recommended to Surgeon General of the Army that increased accommodations for nurses be made at camps, that not less than one nurse be provided to six acutely ill men, that there be a reserve of not less than twenty-five nurses at each camp hospital, and that a qualified nurse tour military and naval hospitals to make observations; all of which recommendations have been favorably received. Miss Annie W. Goodrich appointed inspector general of nursing service in all military hospitals in the United States and France.

Recommended to superintendents of training schools to speed instruction and hold final examinations and graduations early in 1918, and release graduates for government service.

Cooperated with Red Cross and with National Organization for Public Health Nursing in enrollment of public health nurses in office of Red Cross, and urged public health nursing agencies to release staff members for service in extracantonment zones and for rehabilitation work in France and Belgium.

Cooperated with Food Administration in having public health nurses instructed in preparation of war-time food substitutes.

FEEBLE-MINDEDNESS SAPPING NATION'S VITAL FORCES

More Than Four Thousand Defectives Rejected from New National Army—Five Definite Steps Urged for Community Control of the Feeble-Minded, Viz., Identification, Registration, Instruction, Supervision, and Segregation.

"Feeble-mindedness is sapping vital forces of the nation and is a very real danger to democracy," declared George A. Hastings of New York in an address on "Registration of the Feeble-minded" before the National Conference of Social Work.

"A complete census of the feeble-minded in this country has never been taken, but the number is estimated by reliable authorities at approximately 400,000," he said. "About 12,000 men have been rejected from the new national army on account of nervous and mental disorders; of these, about one-third, or 4,000, were rejected on account of feeble-mindedness.

"Without being a sociological calamity howler, I have the firmest conviction that the community must awake to the importance of controlling feeble-mindedness, or the increasing burden of crime, inefficiency, disease, immorality, and poverty resulting from it will stagger coming generations." Mr. Hastings is executive secretary of the Committee on Mental Hygiene of the New York State Charities Aid Association and was speaking before a conference section on "Progressive Steps in Community Control of the Feeble-minded." Five definite steps were outlined at this section—identification, registration, instruction, supervision and segregation.

Mr. Hastings said that the task of registering the feeble-minded would not be so difficult as it seems at first thought. He declared that if the public schools, courts, probation officers, penal and reformatory institutions, hospitals, and various social agencies would all list their known defectives in a central bureau, and continue the registration year by year, the names, whereabouts, and needs of a very substantial proportion of the feeble-minded population would soon be known, and intelligent programs for their supervision and instruction in the community or segregation in institutions could be carried out.

There is probably one feeble-minded person to every two hundred and fifty of the population. This would give a total of about four hundred thousand for the whole country. New York State alone has an estimated feeble-minded population of about thirty-five thou-

sand, of whom only about one-sixth are in proper institutions. If this same rate of institutional provision prevailed throughout the country (which is probably not the case), only about thirty-six thousand of the nation's defectives are segregated.

"Some states are tackling their problem in earnest, but some states which are progressive in other matters have done surprisingly little along this line, and some have done practically nothing. A practical working program for the various states which would take them a long way on the road to a solution of the problem and mark a new era in dealing with it should include the following:

"An awakened public knowledge and conscience through making the facts about feeble-mindedness more generally known and understood.

"Placing squarely up to each state its responsibility for dealing with the problem and fixing upon a definite policy of establishing and administering its machinery therefor.

"Facilities in the community for the earlier discovery of the feeble-minded.

"A central registration of all feeble-minded in the community, with its data available to all public and private agencies coming in contact with them.

"The establishment of institutions and schools for segregation and training.

"Facilities in connection with courts to determine mental condition of prisoners before sentence.

"Establishment of more ungraded classes in public schools to provide training adapted to the capacity of backward and defective children.

"A system of community supervision for the feeble-minded who can safely be left in the community after being properly trained.

"Continued scientific study of the whole problem of feeble-mindedness."

PRIVATE NURSING IN INDIA

Difficulties of a Nurse in Orthodox Indian Families—Superstitions and Customs of the Different Castes

"The nurse in India who makes up her mind to nurse in orthodox Indian families must be well up in the superstitions and customs prevalent in the different castes, otherwise she is likely to offend unconsciously," says a writer in the *British Journal of Nursing*. "When a nurse just commencing private nursing is sent to nurse in an orthodox Hindu or Parsee house, her troubles begin. She goes on duty with an idea of worry, 'I wonder what it will be like,' and she soon finds out. I will give you an instance:

"Sent to nurse B., a case of phthisis. Two doctors in charge. Hindu by caste. Aged 26 years. Very wealthy. Locality crowded part of city. On my arrival at the house, find the entrance door closed. Knock. On hearing a sound, turn around, when I find dozens of eyes on me. They want to see me first. When they know they have been observed, they back into the rooms. At last someone says, 'Come in,' and the door is opened. I have been passed. Room fairly large and well furnished. Patient on bed. Linen on bed and patient of the finest, but crumpled and dirty to look at. Wonder why? Later on find out that every article sent to the wash must be rewashed by the attendants in the house, and this is the consequence. Surrounding the bed are relatives and friends. I may mention patient a woman. Near the bed, on the floor and on the tables are sputum cups. (These particular ones are made of brass, and shaped like arum lilies.) Friends and relations chewing pan supari. . . . No chance of them going, even if asked to do so. If one goes, two take her place, and you are never alone. They are all eager to assist if permitted to do so, but usually sit and stare at the sick person and watch your every movement without a word.

"Husband, a broad-nosed, good-natured man, comes into the sick room at intervals; sits on a well-cushioned easy-chair. Immediately he enters the room a hamal (man servant) runs in with the hookah or hubble-bubble, a peculiar kind of pipe, which holds a receptacle of water. When the air is pulled in by the smoker, it sounds like hubble-bubble. This is a pipe somewhat like that smoked by the Persians. The tobacco used is a smelly kind. When you first smell this, you feel you are in a closed chimney and want to fly, but, like everything else, one gets used to it.

". . . Occasionally patient spits on floor, window, or bed-clothes. No idea of cleanliness. Hamal wipes sputum off articles contaminated. I have seen this man going to wipe the cups for my use with this very duster. . . . I made arrangements to get back to hospital for meals. . . .

"Cook a Brahmin, wearing only a loin-cloth or doti (short native trousers, neither cut nor sewn, of cloth, some yards in length, wrapped around the loins and part of the thighs, composed of muslin or other soft material, through which his brown skin showed), the sacred Hindu thread, and that's all, plus contentment. When I ask him for anything, he stands about two feet away and drops it from the height of a foot into my hands, otherwise places it on a table. 'His Majesty' the cook treats me with contempt (being a heaven-born Brahmin). If I happen to touch his person, he cannot eat or touch any utensil without bathing himself first. I have polluted him. I dare not place a foot in the kitchen, otherwise it must be properly washed. Once I did so, and was told it was a sacred place. A peep into the kitchen. Brass vessels as bright as looking-glasses, and everything so clean. These people at times used to take their meals in the kitchen. No dining-table was needed. Low wooden stools about four inches high were placed for them to sit on. The brass "tali," equivalent to our plate, but about four times its size, was placed on the ground in front of them. On this was piled rice, and from four to six small bowls containing a variety of dishes made of vegetables, etc. (but no meat), some highly spiced, others oily, and others again were chutney, the last mentioned being a favorite. They used to fold their legs under them and eat with their hands.

"Although my patient was so young, she had a married step-son aged about 18 years, his wife being about 14 years of age. I used to find it so strange, this young couple would never speak to one another or to friends in the presence of their parents. I never found out the reason for this, but I believe it would have been considered disrespectful to their elders to have done so. The daughter-in-law had to obey any order given by the mother-in-law.

"My patient used to delight in showing me her silk sarees and telling me the cost of each. . . . Her parting gift to me was a lady's gold watch with an enameled peacock on the back, with tail fully spread. This watch, with the emblem of the peacock, was specially given to me for luck, as this bird is considered sacred by the Hindus. I may mention it was stolen by a pickpocket about a month after receiving it."

An annex to the Henderson (Ky.) Hospital was almost entirely destroyed on May 2 by a fire believed to have been caused by defective wiring.

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